A CONSTRUCTIVIST APPROACH

TO ELEMENTARY SCHOOL MUSIC LEARNING EXPERIENCES

WITH REFERENCE TO THE IDEAS OF JOHN DEWEY

by

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ABSTRACT

The term "constructivism" has become increasingly prominent in the field of education. The purpose of this investigation was to examine some fundamental concepts associated with constructivism in order to determine how constructivist pedagogy might inform the theory and practice of elementary school music education, with particular focus on the ideas of John Dewey. To that end, this investigation first explored a brief history of the concepts associated with constructivism. Thereafter, it considered distinct branches of constructivism as well as current applications in contemporary education, including descriptions of four studies that linked music in some manner to constructivism. This study then examined John Dewey's concept of "art as experience" as a theoretical perspective by which music educators might employ a constructivist approach in the elementary music classroom. The author suggested how Dewey's perspective might inform specific learning experiences in elementary music education, and discussed current approaches to music education in a constructivist framework in terms of some specific benefits and challenges. This analysis concluded that Dewey's concept of experience could both nurture and criticize contemporary constructivist thought as it may relate to music education. Specifically, the author suggested that certain premises of music education as aesthetic education,

particularly to the extent that they are centered in a philosophy of music per se and tend to negate the interconnectedness of environment and organism, may be fundamentally incompatible with a constructivist pedagogy informed by Dewey's ideas.

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CHAPTER I

INTRODUCTION

The term, "constructivism" has multiple origins and different meanings. Yet, pedagogical strategies currently advocated by constructivists appear to share a common core of distinctive characteristics. Over the past two decades, constructivist pedagogy has figured prominently in approaches to education in science, mathematics, language arts, and social studies disciplines. More recently, music educators are beginning to express interest in constructivist perspectives.[1]

In *Pedagogy of the Oppressed*, Paulo Freire presents the antithesis of constructive pedagogy with his characterization of student-teacher relationships in teacher-centered learning as "fundamentally *narrative*," that is "a narrating Subject

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[1] David Perkins, "The Many Faces of Constructivism," *Educational Leadership* 57 (November 1999): 6-11; Joseph Landon Shively, "A Framework for the Development and Implementation of Constructivist Learning Environments for Beginning Band Classes" (Ed.D. diss., University of Illinois at Urbana-Champaign, 1995); Christopher J. Della Pietra, "The Effects of a Three-Phase Constructivist Instructional Model for Improvisation on High School Students Perception and Reproduction of Musical Rhythm" (Ph.D., diss., University of Washington, 1997); Theodore E. Buehrer, "An Alternative Pedagogical Paradigm for Aural Skills: An Examination of Constructivist Learning Theory and Its Potential for Implementation into Aural Skills Curricula" (Ph.D. diss., Indiana University, 2000).

[*sic*] (the teacher) and patient, listening objects (the students)."[2] When students are primarily listening objects of learning, Freire contends, "The content, whether values or empirical dimensions of reality, tend in the process of being narrated to become lifeless and petrified."[3] According to Freire, such a teacher-centered focus removes the process of education from real-world concerns.

By contrast, Homer "Sonny" Hickman, Jr. provides an example of student-directed learning in his novel, *Rocket Boys*, on which the movie "October Sky" is based. This novel portrays Sonny's real life interest in rockets. Sonny and his high school friends become interested in rockets after the launch of Sputnik in 1957. As they begin to build and experiment with their own rockets in the coal fields of West Virginia, Sonny finds that his grades in geometry class are excellent because he sees a direct relation between geometry and rocket design. This success is a remarkable contrast to his former struggles and lack of motivation in algebra class.[4]

Sonny's questions, though, begin to get ahead of the teacher-centered structure of the course. Sonny wants to find out how high his rockets are flying. To do so, he needs to know how to calculate and compare flat areas and curved surfaces. Sonny's teacher dismisses these questions saying that in due course he could perhaps learn such things. According to Hickman, the teacher maintains that

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[2] Paulo Freire, *Pedagogy of the Oppressed*, trans. Myra Bergman Ramos (New York: The Seabury Press, 1968), 57.

[3] Ibid., 57.

[4] Homer H. Hickman, Jr., *Rocket Boys* (New York: Delacorte Press, 1998), 142.

for this class it is necessary "to immerse us in Euclidean geometry and all of its axioms and postulates and proofs."[5]

In the meantime, Sonny and his friends take it upon themselves to learn what they needed to know:

> My usually less supple mind was trying to figure out how high our rockets were flying. I delved into Jake's book. Quentin, delighted to have it, did the same. Sitting together in the Big Creek auditorium at lunch, we taught ourselves trigonometry.[6]

As a learning theory, constructivism appears to have multiple origins. Although there are numerous approaches to a constructivist practice in the classroom, as well as numerous philosophies of constructivism, various subject areas incorporating constructivist ideas share some common themes. Such themes are in (a) science education, (b) math education, (c) social studies education, and (d) language arts education.

Science educators, for example, advocate constructivist ideas in their teaching. Wolff-Michael Roth, physics instructor, characterizes his teaching with these themes: "cognitive apprenticeship and enculturation."[7] In his classroom, Roth sets up learning situations in which he encourages his students to join the culture of science professionals. He incorporates four categories of activities: concept mapping, experiments, essay assignments and textbook problems. The

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[5] Homer H. Hickman, Jr., *Rocket Boys* (New York: Delacorte Press, 1998), 142.

[6] Ibid., 143.

[7] Wolff-Michael Roth, "Construction Sites: Science Labs and Classrooms," in *The Practice of Constructivism in Science Education*, ed. Kenneth Tobin (Hillsdale, NJ: Lawrence Erlbaum Associates, 1993), 147.

main category of focus in his classes is experiments. When children enter school, the manner in which they study science, as well as other disciplines, affect their level of understanding of that specific subject as well as their ability to use cognitive processes.

Constructivist teachers in mathematics make extra efforts to discover how students reach their answers. With appropriate questioning and dialoguing, students think through the steps involved in constructing their answer. If students initial answers are incorrect, this questioning process allows them to correct the answer themselves as opposed to the teacher telling them that they are wrong. For example, in mathematics education, when a student answers incorrectly on an addition problem, the teacher asks the student to explain how he came up with his answer. After realizing his error, the teacher assures the student it is natural to make mistakes and learning occurs when one is aware of one's mistake. This method of allowing students to think for themselves is said not only to improve student-teacher rapport, but also enhance students' self confidence.[8]

Deborah Loewenberg Ball and Hyman Bass empower their students to generate conjectures and to investigate the reliability of these speculations. For example, in Ball's class, a third-grader claims that because he can group six into

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[8] Paul Cobb, Marcela Perlwitz, and Diana Underwood-Gregg, "Individual Construction, Mathematical Acculturation, and the Classroom Community," in *Constructivism and Education*, ed. Nadine Bednarz Marie Larochelle, and Jim Garrison (Cambridge, UK: Cambridge University Press, 1998), 63-80.

threes, it can be both even and an odd number. Students partake in a detailed and lengthy student discussion following this hypothesis.[9]

One simple example of mathematics construction from Ball's class is the problem, "Write number sentences for 10."[10] The students construct as many variations as they can of numbers equaling ten. Some students only use addition, while others chose combinations of mathematical functions such as subtraction, multiplication, and even division.

A major aspect of constructivist approaches is active learning. Instead of a drill and practice regimen, students receive problems to solve. Such problem solving sometimes involves skills in more than one subject area or transfers between subject areas. In an integration of mathematics and social studies, for example, the teacher places white tape on the classroom floor in the shape of a large ship, the "Mayflower." She tells her students the ship cannot sail until they tell the king the proper measurement of the ship. The students must figure out how to measure the ship. The teacher's challenge is to not give answers to the students. Rather, the teacher asks questions and through the students' dialogue and

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[9] Deborah Loewenberg Ball and Hyman Bass, "Making Believe: The Collective Construction of Public Mathematical Knowledge in the Elementary Classroom," in *Constructivism in Education: Opinions and Second Opinions on Controversial Issues*, ed. Denis C. Phillips (Chicago: University of Chicago Press, 2000), 193-224.

[10] Ibid., 202.

experimentation, the students come to a meaningful answer. Such "dialoguing" is an important aspect of a constructivist learning theory.[11]

Some social studies teachers focus on chronological facts instead of the human story of history. Stephen Fleury suggests that social studies teachers use tools based on a constructivist approach to science teaching. He believes students should "construct viable structures for understanding their social worlds."[12] In Catherine Fosnot's description of a constructivist approach to teacher preparation, she details a social studies example of constructivist learning. In this particular project, participants act as architects in a design company. This company is to propose bridge designs in a Brazilian rainforest. Both social studies and science questions guide the project.[13]

A great deal of collaboration, interaction, and dialoguing also takes place using a constructivist approach in a language arts classroom. The teacher carefully plans the collaborative talk and dialogue, but everyone is negotiating and enacting the curriculum. Rather than control the learning in an orthodox manner, the constructivist teacher supports learning by listening openly to students' ideas, interests, and answers. The teacher needs to interpret children's actual and

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[11] Deborah Schifter, "A Constructivist Perspective on Teaching and Learning Mathematics," in *Constructivism: Theory, Perspectives, and Practice*, ed. Catherine Twomey Fosnot (New York: Teachers College Press, 1996), 73-91.

[12] Stephen C. Fleury, "Social Studies, Trivial Constructivism, and the Politics of Social Knowledge," in *Constructivism and Education*, 156-173.

[13] Catherine Twomey Fosnot, "Teachers Construct Constructivism: The Center for Constructivist Teaching/Teacher Preparation Project," in *Constructivism: Theory, Perspectives, and Practice*, 205-216.

potential levels of development. The challenge of creating literate thinkers and writers is a never-ending process of constructing meaning. June Gould illustrates writing process workshops as an example of constructivist learning in the language arts discipline. The teacher asks the writer clarifying questions, then confirms the writer's ideas and texts. At the end of the period, a few writers share their texts and the group follows this same pattern of confirming the text and asking questions for clarification.[14]

Constructing meaning in music education classrooms using constructivist ideas is a current interest. According to Maxine Greene children use triangles, gongs, chalk, and paint brushes to create meanings. She describes that children's use of movement allows them to create meanings:

> They construct what are accepted as 'unreal' worlds by improvising in theatrical spaces . . . they often engage in the construction of distinctive social realities that they can comfortably inhabit, while such realities remain unrecognizable by those "outside."[15]

Such learning seems to occur naturally in elementary music classroom. Elementary students who create music by singing, playing instruments, improvising, and composing are active in the construction of their own learning experiences.

May Root Kern, a music teacher from John Dewey's laboratory school in Chicago at the turn of the twentieth century, writes how students gain an understanding of rhythm and meter by swinging their right hand. Once familiar

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[14] June S. Gould, "A Constructivist Perspective on Teaching and Learning in the Language Arts," *Constructivism: Theory, Perspectives, and Practice*, 92-102.

[15] Maxine Green, "On Teaching and Learning in the Arts," in *Constructivism: Theory, Perspectives, and Practice*, 123.

with a new song, she asks individuals to "express on the board their idea of its rhythm."[16] Expressing images through group compositions constitute important musical experiences of Dewey's lab school:

> When the idea of writing an entire song with words and music was first presented to the children, they regarded it as a daring enterprise . . . and the work is now regarded by them as being more serious than any other phase.[17]

In such a framework, music instructors challenge is to develop musical skills through active learning scenarios. Although active, child-centered learning seemed most appropriate for the elementary music classroom, there are teacher-centered lessons still being published. There is a need for ideas that implement a constructivist approach in music education.[18]

In John Goodlad's well-known survey of American schools, he notices an absence of emphasis on cultural expression in the arts. According to Goodlad, the arts appear to "go little beyond coloring, polishing, and playing."[19] Constructivist ideas may yield means for music teachers to guide their students in exploring musical elements, constructing musical meanings, and expressing cultural ideas.

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[16] May Root Kern, "Elementary Music Teaching in the Laboratory School, I," *Elementary School Teacher* 3 (July 1902): 690.

[17] May Root Kern, "Elementary Music Teaching in the Laboratory School, II," *Elementary School Teacher* 4 (September 1903): 17-18.

[18] Sandra L. Stauffer, and Jennifer Davidson, eds. *Strategies for Teaching K-4 General Music* (Reston, VA: Music Educators National Conference, 1996), 13-16, 19-20, 23-24, 39-40, 43-44, 46-47, and 59-60.

[19] John Goodlad, *A Place Called School* (New York: McGraw-Hill Book Company, 1984), 220.

The purpose of this investigation is to examine some fundamental concepts of constructivism with a view toward determining how constructivist pedagogy might inform the theory and practice of elementary school music education. In doing so, this study will focus specifically on the ideas of John Dewey. Steve Fishman describes Dewey's pedagogical aims as ideal methods for realizing primary educational objectives that rely on "close attention to transactions between student and curriculum in the classroom. . . . Ideas cannot be handed down like bricks; pupils must be active and supply the energy for their own learning."[20] With his concept of "art as experience," moreover, Dewey appears unique, among those major thinkers routinely credited with laying a foundation for contemporary constructivist pedagogy, in explicitly considering music and the arts as essential components of education.

Research Questions:

The following research questions guide this investigation:

1. How might John Dewey's concept of "art as experience" enlighten a constructivist approach to music education?
2. How might music educators employ a constructivist approach in the elementary music classroom?
3. What are some specific benefits and challenges in using a constructivist approach in the elementary music classroom?

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[20] Steve Fishman, *John Dewey and the Challenge of Classroom Practice* (New York: Teachers College Press, 1998), 54.

Definition

For the purposes of this investigation, constructivism is a theory of learning, which allows students to create or construct their own understandings, based on students' prior knowledge, experiences, and interests.[21]

[21] Jacqueline Grennon Brooks and Martin G. Brooks, *In Search of Understanding: The Case for Constructivist Classrooms* (Alexandria, VA: Association for Supervision and Curriculum Development, 1993), 17, 101-118.

CHAPTER II

REVIEW OF LITERATURE I:

A BRIEF HISTORY OF CONSTRUCTIVIST IDEAS

The following two chapters serve as an overview of ideas associated with constructivism as well as reviewing some current constructivist approaches in teaching. Chapter two contains a brief history of constructivist ideas. Chapter three looks at contemporary constructivist ideas in terms of: (a) two broad categories of constructivism, (b) critiques of constructivist ideas, (c) constructivist ideas in the general classroom, and (d) constructivist approaches to music education.

A Brief History of Constructivist Ideas

The term "constructivism" spans different disciplines and a broad philosophical array of major thinkers, yet, there are commonalties among the various constructivist theories. According to Ernst von Glasersfeld, the contemporary notion of constructivism grew out of the writing of independent thinkers. These thinkers according to Glasersfeld, constructed key ideas that various thinkers invented separately and repeatedly. A thorough history of ideas related to constructivism needs to be undertaken. For the purposes of this

investigation, however, the following historical survey of constructivist ideas points to a broad base for contemporary constructivist philosophy.[1]

Plato: Reality and Perspectives

In Plato's allegory of the cave a person inside the cave perceived reality through shadows cast by a fire in the cave. The cave dwellers only saw the shadows cast from the light of the fire. Although the dwellers actually witnessed figures cast from the shadows of the fire, they did not view the true nature of the light or any genuine person or thing. Those individuals were constructing their own reality based upon what they experienced and created from their surroundings.[2]

Outside in the bright light, the sun temporarily blinded the dweller and dazzled his sight. It took time for him to become adjusted physically to the light as well as mentally to the new reality. He felt more content with his past reality and seemed to struggle to be accustomed to the new reality.

Upon returning to his former prisoners, again it took the dweller time to adjust to the darkness of the cave. During this adjustment time, his fellow prisoners laughed at his transformation as if they were incapable of seeing his

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[1] Ernst von Glasersfeld, *Knowing without Metaphysics: Aspects of the Radical Constructivism*, 1991, posted 4 May 1999 [Karl Jaspers Forum, target article 17]; available from http://www.mcgill.ca/douglas/fdg/kjf/17-TAGLA.htm, accessed 30 May 2000.

[2] Plato, *The Republic*, trans. Benjamin Jowett (New York: Airmont, 1968), Book VII, 514a-520e.

perspective. The others did not want to be released. They appeared to favor ignoring the reality outside the cave.

Plato's allegory of the cave demonstrates two ideas related to a constructivist approach to teaching: multiple perspectives and student-centered learning. This cave allegory demonstrates how difficult it is for one to adjust to new surroundings, or in the case of students, new cognitive ideas. The second idea for a constructivist educator in this allegory is the importance of student-centered learning. Dragged forcefully and painfully up the hills in the cave to the outside, the dweller sees the wisdom and intelligence from the sunlight. Perhaps part of Plato's message for teachers is to realize that students will struggle, unmotivated, when coerced to learn from the teacher's perspective.

In Socratic dialogue, appropriate discourse sheds light. The nature of Socratic dialogues in some ways mirrors a constructivist inquiry approach. According to Socrates, after asking the appropriate questions, the seeker draws out or recollects.

On balance, the Platonic idea of present reality as a poor reflection of ultimate reality, perhaps parallels the constructivist idea that one constructs one's own beliefs through experience and prior knowledge. At the same time, it challenges some forms of a constructivist framework with the idea that the reality one creates may not be the most appropriate reality.

Giambattista Vico: Self-Knowledge

In 1710, Giambattista Vico (1668-1744) described how the human activity of reason constructed scientific knowledge. He argued that understanding was a result of imaginative reconstruction. According to Vico, one can only accurately know one's own thoughts. Vico described the knower as a creator of truth. For example, Vico's explanation of proper instruction in geometry results in students understanding in a constructive manner: "Therefore, I wanted it (geometry) to be taught in the synthetic rather than the analytical way . . . so that we do not just discover the truth, but make it."[3]

Vico remarked that one cannot construct the past precisely as it occurred due to the idiosyncratic nature of one's recollections, understandings, and experiences. According to Vico, various present concepts clouded one's memory. In this sense, Vico perhaps anticipated ideas that later surfaced in Piaget's writing regarding stages of development and the mind's ability to connect new knowledge to prior knowledge. According to von Glasersfeld, Vico's treatise was the first formulation of constructivism.[4]

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[3] Giambattista Vico, *On the Most Ancient Wisdom of the Italians*, trans. L. M. Palmer (Ithaca, NY: Cornell University Press, 1988), 104.

[4] Ernst von Glasersfeld, *Radical Constructivism: A Way of Knowing and Learning*, Studies in Mathematics Education, ed. Paul Ernst, no. 6 (Bristol, PA: The Falmer Press, 1995).

Pestalozzi: Experience before Symbol

Johann Pestalozzi (1746-1827) was a Swiss educator who held that education should be organic in nature. He viewed words, practices, ideas, and morals as meaningful only when associated with concrete experiences. In 1837, Lowell Mason (1792-1872) traveled to Switzerland and Germany where he studied Pestalozzian methods. Mason's influence contributed to bringing music into the Boston public schools in 1838.[5]

Mason incorporated Pestalozzian ideas into his *Manual of Instruction*, which was popular among singing school instructors, music teachers, and choir directors of his day. These Pestalozzian methods included child-centered themes where action enhances understanding. The notion of experience before symbol appeared to be a central model. Some of the Pestalozzian principles incorporated into Mason's teaching manual were active learning as opposed to passive learning, and experience before theory.[6]

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[5] Michael L. Mark and Charles L. Gary, *A History of American Music Education*, 2d ed., (Reston, VA: MENC--The National Association for Music Education, 1999). According to Howard Ellis, Mason was actually an editor rather than the author of the *Manual of Instruction*. Ellis asserted that the *Manual* was not Pestalozzian in nature, see Howard Ellis, "Lowell Mason and the *Manual of the Boston Academy of Music*," *Journal of Research in Music Education* 3 (spring 1955): 3-10; also see Lowell Mason, *A Glance at Pestalozzianism* (New York: Mason Brothers, 1863); and Lowell Mason, *The Pestalozzian Music Teacher*, (New York: C. H. Ditson, 1871).

[6] Edward Bailey Birge, *History of Public School Music* (Boston: Oliver Ditson Co., 1928; reprint, Reston, VA: Music Educators National Conference, 1966), 35-56 (page citations are to the reprint edition).

William James: Pure Experience

William James (1842-1910) studied both art and science before receiving a medical degree from Harvard in 1869. He later joined the Harvard faculty where he taught physiology, psychology, and philosophy. James rooted his philosophy in the classical empiricism of George Berkley, David Hume, and John Locke. Central to James philosophy was the notion of pure experience. According to James, "The relations that connect experiences must themselves be experienced relations, and any kind of relation experienced must be accounted as 'real' as anything else in the system."[7] James viewed consciousness as connected to the function of knowing in an experience. As opposed to ordinary empiricism focusing on the separate, unconnected parts of an experience, in James's view of "radical empiricism," each part of an experience relates to other parts, and these relations are as "real" as the entire experience. James defined experience as a continuous, unitary whole, "What I do feel simply when a later moment of my experience succeeds an earlier one is that though they are two moments, the transition from the one to the other is continuous."[8]

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[7] William James, *Essays in Radical Empiricism*, ed. Ralph Barton Perry, with an introduction by Ellen Kappy Suckiel (Lincoln, NE: University of Nebraska Press, 1996), 42, see also pp. vii-xiii.

[8] Ibid., 48.

George Herbert Mead: Pragmatism

One of the founders of American Pragmatism was George Herbert Mead (1863-1931). Mead, social theorist and philosopher, lived at William James's home and tutored James's children while working toward his A.B. degree from Harvard in 1888. At Harvard he studied with Francis Bowen, George, H. Palmer, and Josiah Royce. An active social reformer, Mead spent much time working for civil causes such as serving as vice president of the Immigrants' Protective League. Mead published very little while he was alive, yet his students promulgated his ideas. Mead noted that pragmatism arose from the relationship of the act itself and thought. As Mead indicated, "Out of the type of psychology which you may call 'behavioristic' came a large part of the stimulus for a pragmatic philosophy."[9]

Mead lectured on politics, metaphysics, ethics, history of philosophy, and epistemology. In a manner consistent with a constructivist perspective, Mead viewed reflection as a means to adjust one's behaviors, and to consider multiple perspectives in a situation. Mead was life-long friends with John Dewey, who once described Mead as "a seminal mind of the very first order."[10]

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[9] George Herbert Mead, *On Social Psychology*, ed. by Anslem Strauss (Chicago: The University of Chicago Press, 1972), 82. For biographical information on Mead, see *American National Biography* (New York: Oxford University Press, 1999).

[10] Mitchell Aboulafia, "Mead, George Herbert," *American National Biography*, 1999.

Progressivism and School Reform

Francis W. Parker (1837-1902), whom John Dewey once called "the Father of Progressivism," experienced a renaissance in his own teaching methods.[11] Before attending college around 1855, Parker taught in the same manner that his teachers taught him. After serving in the army during the Civil War, Parker employed the Word Method, used a phonetic plan, and dropped technical grammar in his teaching. Then, after attending the University of King William in Berlin for two and a half years where he studied Pestalozzi, Hegel, and Froebel, he returned to the states. He was convinced that there was a different way to teach that would result in greater student growth.[12]

After the Quincy, Massachusetts, school board conducted annual examinations in person and discovered that students were unable to transfer school learning to other activities such as writing an ordinary letter, it elected Parker as the first superintendent of the Quincy schools in 1873. From 1873-1880 Parker transformed the curriculum by incorporating more authentic activities such as touring the local countryside for geography, manipulating objects for arithmetic, using simple words in sentences as opposed to learning the alphabet by rote. After a brief time as school supervisor in Boston in 1880, Parker became principal of the

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[11] Francis Wayland Parker, "An Autobiographical Sketch of Francis Wayland Parker," appendix to *School Days in the Fifties*, by William M. Giffin (Chicago: A. Flanagan Company, 1906), 110-137.

[12] Lawrence A. Cremin, *The Transformation of the School: Progressivism in American Education 1876-1957* (New York: Vintage Books, 1964), 129-135; Herbert Kliebard, "Parker, Francis Wayland," *American National Biography*, 1999.

Cook County Normal School in Chicago in 1883. In Chicago, Parker's school program was child-centered and the subjects were interrelated.[13]

Another educational leader who later became associated with progressive education was John Dewey (1859-1952). Some of John Dewey's ideas related to the ideas of constructivism: "knowledge is a perception of those connections of an object which determine its applicability in a given situation."[14] Not only did Dewey believe the importance of perceiving connections and transferring knowledge, but he also trusted individuals should create own ideas related to the knowledge gained from experiences:

> Suppose also men had been systematically educated to believe that the important thing is not to get themselves personally "right" in relation to the antecedent author and guarantor of these values, but to form judgments and carry on their activity on the basis of public, objective and shared consequences.[15]

When the Dewey family moved to Chicago in 1894, Dewey visited one of Parker's schools and became interested Parker's approach. According to Dewey, one should build new experiences to enhance one's understanding of older beliefs. Such emphasis on cognitive educational experiences inspired teachers to create hands-on learning experiences for students, as well as encourage cooperative learning and higher level thinking skills. Such Progressivist efforts to make

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[13] Cremin, *The Transformation of the School*, 128-135.

[14] John Dewey, *Democracy and Education* (New York: The Free Press, a Division of Simon & Schuster, Inc., 1944), 340.

[15] John Dewey, *The Quest for Certainty: A Study of the Relation of Knowledge and Action* (New York: Minton, Balch & Company, 1929), 47.

students educational experiences more active and to guide students to construct their own understanding, were perhaps one basis for contemporary constructivist theory.[16]

The Progressive movement in education had various meanings. The term "Progressivism" appeared during the years 1890-1920. Among those associated with the Progressivism movement were William James, G. Stanley Hall, Edward Thorndike, and John Dewey. Cremin described how society's shift toward industrialism had a negative impact on education. School classrooms mirrored a shift to an industrial society.[17]

Among the major descriptions often associated with Progressive education were, "child-centered," and "social reconstructionist." According to Cremin, "child-centered" referred to the need to respect the uniqueness of each student and the diversity of students' interests, abilities, ideas, cultural identity, and needs. The "social reconstructionist" approach denoted collaborative efforts to work for the common good.[18]

Progressive education focused on active participation in learning, attention to individual interests and abilities, the importance of how school knowledge

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[16] Sandra Waite-Stupiansky, *Building Understanding Together: A Constructivist Approach to Early Childhood Education* (Albany, NY: Delmar Publishers, 1997).

[17] For more information on Hall, see Roger R. Rideout, "On Early Applications of Psychology in Music Education," *Journal of Research in Music Education* 30 (fall 1982): 141-150; and Cremin, *The Transformation of the School*, 23-57.

[18] Cremin, *The Transformation of the School*, 58-90.

connects to the wider world, and the value of educated individuals to a working democracy. From 1932-1940, a comparison of 1,475 progressive high school students and "traditional" high school students in the "Eight-Year Study" indicated students from progressive schools were more adaptable, capable learners who excelled in their university studies. These students seemed to assert greater intellectual curiosity, earned more academic and nonacademic honors, and showed greater concern for national affairs.[19]

Milwaukee area teachers originated a contemporary reform effort titled, "Rethinking Schools,"[20] as an effort to address dilemmas of standardized testing, basal readers, and textbook-dominated curriculum. Those educators associated with "Rethinking Schools" created a working draft of principles aimed at improving the educational system. Principle number one stated, "Public schools are responsible to the community, not to the marketplace."[21] With this guiding principle, the editors of *Rethinking Schools* revisited the idea of how public schools should generate a multicultural democracy based on improving society as a whole.

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[19] Cremin, *The Transformation of the School*, 253-256.

[20] Bob Peterson, "Is There Value in Value Added Testing?" *Rethinking Schools* 14 (summer 2000): 1, 14-16.

[21] The editors of Rethinking Schools, "A Vision of School Reform," *Rethinking Schools* 14 (summer 2000): 27.

Visual arts

Constructivist ideas have also occurred in the visual arts. Prototypes of the Constructivist concept appeared over thousands of years in several forms such as "geometrical mosaics on the floors of Roman baths . . . stained glass patterns, woven tartans and rugs."[22] This artwork, a precursor to Constructivist art, consisted of images like the checkerboard, stripe, key, chevron, circle, and other geometric shapes.

The development of Cubism between 1908-1913 contrasted with the verisimilitude of the late nineteenth century. This shift served as a basis for Constructivism in the visual arts. The term "Constructivism" was applied to a period of art from 1913-1922 primarily associated with the Russian artist, Vladimir Tatlin. Picasso's Cubist art influenced Tatlin. Initially, Constructivist artists built objects rather than casting or carving them. Such artwork created from scratch, as opposed to, for instance, starting with a stone and carving it, was a characteristic of Constructivist art. After the initial "constructing" focus of this art style, Constructivist artists used other mediums such as painting. The Constructivist idea continued through the "realness" of the images. There was no symbolism, no romantic inferences, no illusions, and no surface treatment. The idea was construction, not expression. Each constructivist artist had a unique style.[23]

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[22] George Rickey, *Constructivism: Origins and Evolution* (New York: George Braziller, Inc., 1995), 9.

[23] Ibid., 13-32. For more information on the evolution of Constructivist art see Rickey, *Constructivism: Origins and Evolution*, 35-86.

Craig Eliason described "International Constructivism" as optimistic, abstract art, which began in the 1920's in Europe. This style had its origins in the Russian art described above. It flourished mainly in Germany, but also to lesser degrees in France, England, and the United States. As Eliason indicated, such Constructivist art was often geometric and experimental. It was rarely emotional and it sought order.[24]

More recently, Werner Hovrath called his style of visual art "New Constructivism."[25] Hovrath's paintings attempted to show reality's subjective individuality and that one's understanding of the world is self-constructed. Hovrath suggested that such ideas related suggestively to those of Vico, Uexkull, Glasersfeld, Watzlawick, and others.

The connection between Constructivism in the visual arts and in education may be ironic. Craig Eliason (email message, 1 July 2000) stated, "I've always thought the coincidence between the term Constructivism in art history and in education was rather ironic, because I think the (art) Constructivists were looking for universal human responses and values, while the (education) constructivists are quite skeptical of such fundamental universal truths." Such associations of the term

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[24] Craig Eliason, *The International Constructivist Home Page* [web page]; available from http://www.rci.rutgers.edu/~eliason/ichp.htm, accessed 14 May 2000.

[25] Patrick Hovrath and Werner Horvath, *Virtual Museum of Political Art: New Constructivism* [web page]; available from http://www.medicalnet.at/horvath/constr.htm, accessed 14 May 2000.

"Constructivism" with the visual arts suggested the wide range of meanings related to Constructivist art.

Jean Piaget: Mental Adaption and Representation

Jean Piaget (1896-1980) employed the term "constructivism" in the 1930s. Although Piaget did not claim to be an educator, his research supported active methodology at the heart of teaching. "Children should be able to do their own experimenting and their own research."[26] Piaget acknowledged that teachers were, in a sense, guides, as they provided appropriate material. But, according to Piaget, "The essential thing is that in order for a child to understand something, he must construct it himself, he must re-invent it."[27] Piaget's biological explanation of knowledge, rather than grounding knowledge reason broke radically with traditional philosophy. Piaget viewed reality as continuing in construction, not derived from ready-made structures. Piaget did not believe an objective reality was possible. Rather, he held that each individual's constructive reality as constantly changing, such constructions, according to Piaget, relied on prior knowledge.[28]

Piaget insisted that understanding occurred when one was able to "re-present" information in one's own language: "Through sensorimotor intelligence he

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[26] Jean Piaget, "Some Aspects of Operations," in *Play and Development*, ed. Maria W. Piers (Toronto, Canada: W. W. Norton & Company, Inc., 1972), 15-27.

[27] Piaget, "Some Aspects of Operations," 381.

[28] Barry J. Wadsworth, *Piaget's Theory of Cognitive and Affective Development: Foundations of Constructivism* (White Plains, NY: Longman, 1996).

has managed to construct a coherent practical universe by combining accommodation to objects with assimilation of objects to intercoordinated structures."[29] Piaget concluded that after the children overcome their egocentrism and any other obstacles impeding future intellectual growth, they gained the ability to expand rational construction into logical relationships and appropriate representations.[30]

Piaget maintained that educators need to recognize what causes "cognitive conflict" or "disequilibration" in students. Piaget understood teachers should not only create this curiosity for their students, but also encourage them to use it in a valid manner. This skill, in conjunction with the skill of reflective abstraction, contributed to "object permanence," which is a basis for many conceptual activities in Piagetian framework.

Jean-Francois Lyotard: Postmodernism

In the introduction of *The Postmodern Condition: A Report on Knowledge*, Jean-Francois Lyotard (1924-1998) called himself a philosopher, and not an expert: "The latter [expert] knows what he knows and what he does not know: the former [philosopher] does not."[31] Regardless, Lyotard identified the study of knowledge

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[29] Jean Piaget, *The Construction of Reality in the Child*, trans. by Margaret Cook (New York: Basic Books, Inc., 1954), 381.

[30] Ibid.

[31] Jean-Francois Lyotard, *The Postmodern Condition: A Report on Knowledge*, trans. by Geoff Bennington and Brain Massumi (Manchester: Manchester University Press, 1984), xxv.

in highly developed societies as "postmodern." Due to the increased use of computer based knowledge, Lyotard asserted the nature of knowledge will only survive if it can become operational in the form of computer language. The ability to transfer or connect differing fields, in Lyotard's opinion, promoted education's progress. In his notion of "language games,"[32] one who can rearrange information in a new way and connect previously separate data, made a proper "move" in a language game. These ideas connect to the use of technology in a constructivist approach as well as the constructivist need for knowledge transfer.

Jerome Bruner: Discovery Learning and Scaffolding

Jerome Bruner (b. 1915) employed concepts based on Lev Vygotsky and Piaget. Jerome Bruner's theory based his theory on active participation in the learning process. He noted that students should be confident in their ability to discover on their own, plus use reflective thinking time. According to Bruner, this reflective inspection was "the kind of internal discovery that is probably of highest value."[33] Bruner elucidated the importance of respecting student contributions: "We should somehow give to children a respect for their own powers of thinking,

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[32] Lyotard, *The Postmodern Condition*, 10. Lyotard attributed this term to Wittgenstein.

[33] Jerome S. Bruner, *Toward a Theory of Instruction* (New York: W. W. Norton & Company, 1966), 96.

for their power to generate good questions, to come up with interesting informed guesses."[34]

Bruner maintained that ideally motivation should be intrinsic. When students successfully attained cognitive mastery and can reach beyond what formerly was too challenging, intrinsic motivation follows. Additionally, Bruner maintained, "The will to learn is an intrinsic motive . . . its source and its reward in its own exercise."[35] Bruner's notion of inculcating the techniques of discovery may have informed contemporary constructivist approaches toward learning in that in order to learn, after encountering difficulty, one recasts one's understanding into a workable form, then greater comprehension follows. Bruner chose the figurative term "scaffolding" to describe the gradual removal of adult assistance in students' mastery of a specific task.

Howard Gardner: Multiple Intelligences

Howard Gardner (b. 1943), professor of education and co-director of Project Zero at Harvard Graduate School, as well as adjunct professor of neurology at Boston University, detailed a theory of multiple intelligences in 1983 with his book, *Frames of Mind: The Theory of Multiple Intelligences*. Gardner's theory embraced a broad understanding of the human mind. His widely accepted ideas

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[34] Bruner, *Toward a Theory of Instruction*, 96.

[35] Ibid., 127.

incorporated creation in music and arts, understanding of self and others, spatial reasoning, as well as analytical and verbal abilities.[36]

Gardner's teaching experience began in high school when he taught children piano. His fascination with children's artistic activities blossomed after teaching five to seven-year olds in an open classroom. In, *Art, Mind, and Brain*, Gardner argued that versatility with a medium demonstrates intellectual achievement. Gardner maintained that artistry involved evolving thought processes, and attention should be paid to this "symbol use." According to Gardner, actively guiding one's artistic development allowed the complicated inventive process to open up to an individual's artistic potential, "Rigid drill is not necessary; what is wanted are recipes that give the child tools for achieving the effects he wants, that open up rather than foreclose possibilities."[37]

In *The Unschooled Mind*, Gardner suggested proper balance between three forms of knowledge representation: performance, information, and understanding. He noted the limits of basic skills appeared to stem from students' lack of knowing why they learned specific concepts and skills, and how they could use these ideas in their own lives. Gardner manifested his educational ideals in the "Spectrum Classroom," geared for children ages four to eight. The Spectrum Classroom's activities centered around the multiple intelligences. Through observation teachers

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[36] Howard Gardner, *Frames of Mind; the Theory of Multiple Intelligences* (New York: Basic Books, 1993).

[37] Howard Gardner, *Art, Mind, and Brain* (New York: Basic Books, 1982), 217.

noted student interests, strengths, and weaknesses, and summarized these descriptors in a Spectrum Report. These ideas expanded on previous work by Maria Montessori, Piaget, Dewey, Friedrich Froebel, and Pestalozzi.[38]

Gardner recently elaborated on the challenges and results of students' lack of skills and inability to demonstrate proper use of knowledge. Gardner described numerous studies where students were unable to perform a related skill or explain a natural phenomenon such as why there are different temperatures in summer and winter. He highlighted three approaches to understanding: (1) observational (similar to an apprenticeship), (2) confrontational--where one directly investigates a misunderstanding, and (3) a systematic approach, teaching for understanding and assessing performance. According to Gardner, the Multiple Intelligence Theory should underscore all approaches to understanding.[39]

Gardner recommended the use of seven "entry points" that endorse awareness of multiple perspectives and are generally connected to the multiple intelligences. The seven "entry points" for nurturing understanding included narrational or story-telling, quantitative or numerical, logical, foundational or existential, aesthetic or sensory, experiential or hands-on approach, and social.[40]

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[38] Howard Gardner, *The Unschooled Mind: How Children Should Think and How Schools Should Teach* (New York: Basic Books, 1991), 1-20, 205-210.

[39] Howard Gardner, *Intelligence Reframed: Multiple Intelligences for the 21st Century* (New York: Basic Books, 1999), 157-181.

[40] Ibid.

Marge Scherer interviewed Howard Gardner and inquired about the differences between constructivist classrooms and behaviorist classrooms. Gardner described the behavioral perspective as students being passive recipients and the teacher's role as directive. He stated that students who try to figure out the one correct answer are practicing convergent thinking, as opposed to divergent thinking in which students propose multiple creative ideas. Gardner described constructivism as a cognitive perspective and the students as active learners where students are allowed to practice ideas and discover how their ideas work.[41]

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[41] Marge Scherer, "The Understanding Pathway; A Conversation with Howard Gardner," *Educational Leadership* 57 (November 1999): 12-16.

CHAPTER III

REVIEW OF LITERATURE II:

CONTEMPORARY CONSTRUCTIVIST IDEAS

This chapter looks at contemporary constructivist ideas in terms of: (1) two broad categories of constructivism, (2) critiques of constructivist ideas, (3) constructivist ideas in the general classroom, and (4) constructivist approaches in music education. It then offers general conclusions derived from the review of literature contained in chapters two and three.

Two Broad Schools of Constructivism

Denis C. Phillips recently divided the constructivist landscape into two broad and radically different spheres: social constructivism and psychological constructivism. Within each of these areas, extreme and moderate positions emerged. According to Phillips, there appeared room for idea overlap when contemplating the entire constructivist landscape. Phillips placed the constructivist issues into three categories: interpretive, philosophical, and educational.[1]

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[1] Denis C. Phillips, "An Opinionated Account of the Constructivist Landscape," in *Constructivism in Education: Opinions and Second Opinions on Controversial Issues, Ninety-ninth Yearbook of the National Society for the Study of Education, Part I*, ed. Denis C. Phillips (Chicago, IL: National Society for the Study of Education, 2000), 1-16.

Psychological Constructivism

Phillips noted that it was important to clarify that that not all psychologists were psychological constructivists, and in turn, not all psychological constructivists were psychologists. Psychological constructivists focused on how individuals construct their own understanding. In addition to acknowledging the individual construction of understanding, some psychological constructivists considered social influences such as language and culture in their constructivist philosophy.

Ernst von Glasersfeld and Radical Constructivism

In the realm of "psychological" constructivism, Ernst von Glasersfeld advanced what he termed "radical constructivism." Glasersfeld described radical constructivism as "an approach to or a theory of *knowing*," as opposed to a theory of knowledge. Radical constructivism based reality on individual experience. Glasersfeld asserted, "What we make of experience constitutes the only world we consciously live in."[2] He continued to explain that any type of experience—others, self, things—is subjective. Glasersfeld isolated his view of constructivism from solipsism because he viewed constructivism as a theory of knowing as opposed to being. Glasersfeld called this relationship between reality and knowledge "viability." An action, contended Glasersfeld, was only viable to the extent it was useful in accomplishing a specific self-created task.[3]

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[2] Glasersfeld, *Radical Constructivism,* 1.

[3] Ibid., 14.

The thinker maintains learning responsibility, according to Glasersfeld: "Concepts cannot simply be transferred from teachers to students—they have to be conceived."[4] In this fashion, thinkers construct ideas based on their subjective experience.

Physical Constructivism

An extension of "psychological" constructivism, related to mathematical constructivism, is "physical" constructivism. Joslyn Heylighen described this evolutionary philosophy where one can understand systems through physical processes. Language, mathematics, and semantics, in this philosophy, "must always be understood in the context of the physical basis of their operation."[5] Physical systems that receive, transmit, or interpret physical tokens such as machines, brains, computers, or sense organs, were the basis for understanding in this context.

Social Constructivism

Social constructivist's continuum ranges from the radical socialism of the Edinburgh School, which views knowledge as totally determined by sociological forces, to socially oriented psychological constructivists. According to Jim

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[4] Ernst von Glasersfeld, "A Constructivist Approach to Teaching," in *Constructivism in Education*, ed. Leslie Steffe and Jerry Gale (Hillsdale, NJ: Lawrence Erlbaum Associates, Inc., 1995), 5.

[5] Joslyn Heylighen, *Physical Constructivism* [web page]; available from http://pespmcl.vub.ac.be/PHYSCONS.html, accessed 27 June 2000.

Garrison, pragmatic social constructivism embraces the "I can do" rather than the "I think" philosophy of Descartes.[6]

Lev Vygotsky and Social Constructivism

Lev Vygotsky's central premise was the connection between student learning and social influences: "human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them."[7] Embodied action is at the core of pragmatic social constructivism rather than abstract reason, although student action is many times self-directed. Self-directed student action is an important concept of constructivism. Greater motivation for learning occurs when students are actively involved in topic choice. Additionally, educators who consider multiple student perspectives and attempt to consider students' entire context follow pragmatic social constructivist theory.[8]

Both the radical and the social views of constructivism held the idea that learning should be an active process. In social constructivism, Vygotsky believed

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[6] David Bloor, *Knowledge and Social Imagery* (Chicago: The University of Chicago Press, 1991); Eric Bredo, "Reconsidering Social Constructivism: The Relevance of George Herbert Mead's Interactionism," in *Constructivism in Education: Opinions and Second Opinions*, ed. Denis C. Phillips, 127-157; Jim Garrison, "Toward a Pragmatic Social Constructivism," in *Constructivism and Education*, 43-60.

[7] Lev Semyonovich Vygotsky, *Mind in Society: The Development of Higher Psychological Processes*, ed. Vera John-Steiner, Michael Cole, Sylvia Scriber, and Ellen Souberman (Cambridge, MA: Harvard University Press, 1978), 88.

[8] Garrison, "Toward a Pragmatic Social Constructivism," in *Constructivism and Education*, 43-60.

that children construct knowledge, development is socially connected, and language acts as a crucial role in mental development. According to Vygotsky, learning could precede development, which was manifest in his theory of the "zone of proximal development." Vygotsky defined the zone of proximal development as:

> The distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.[50]

Social Constructed Meanings

According to Christopher Small, active engagement with the surrounding world guided our ability to make sense of relationships. Small held that one constructs reality in a social manner. Participating in musical activities aroused powerful emotions, as Small indicated, and one's relationship with various experiences offered connections that contributed toward personal identity: "it is in musicking that we experience most directly and intimately the relationships of the pattern which connects."[51] Society may influence individuals by such connecting patterns.

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[50] Vygotsky, *Mind in Society*, 86; Elena Bodrova and Deborah J. Leong, *Tools of the Mind: The Vygotskian Approach to Early Childhood Education* (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1996), 8-43.

[51] Christopher Small, *Musicking: The Meanings of Performing and Listening* (Hanover, NH: Wesleyan University Press, 1998), 143.

Cultural Constructivism

In addition to the influence of social surroundings, cultural influences also affected one's learning. Martin Dougimas labeled this form of social constructivism "cultural constructivism." His framework included language, symbols, custom, religion, tradition, popular culture, and biology.[11] Dougimas argued that constructivism aims at reforming the cultural and social environment "critical constructivism." He stated that efforts to reduce the myths of teacher as central transmitter of truths and controller ideally are best done in an optimistic and cooperative manner.[12]

According to Rheta DeVries and Betty Zan, constructivist educators should create a "cooperative sociomoral atmosphere for learning."[13] DeVries and Zan suggested that educators should consider the child's view and that both the child and the teacher should take into account multiple perspectives.

Differences in Constructivist Approaches

The key difference between Vygotsky's view and Glasersfeld's view was the role of social influence on learning. In Vygotsky's view, social interplay

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[11] Martin Dougiamas, *A Journey into Constructivism* [paper on-line]; available from http://dougiamas.com/writing/constructivism.html, 22 April 2000.

[12] Peter Taylor, "Mythmaking and Mythbreaking in the Mathematics Classroom," *Educational Studies in Mathematics* 31 (September 1996): 151-173.

[13] Rheta DeVires and Betty Zan, "A Constructivist Perspective on the Role of the Sociomoral Atmosphere in Promoting Children's Development," in Fosnot, ed. *Constructivism: Theory, Perspectives, and Practice*, 119.

embraced the key to the child's development. The growth and development of the child occurred with direction from others who are more adept. A child's developmental processes remained behind his learning processes, in Vygotsky's belief, and he viewed connections between the two processes inherent. Therefore, Vygotsky held that one must mold and adjust student assessment appropriately. "Dynamic assessment" included assessing what students can do with various levels of assistance. Noting how students use help and what hints are most valuable were important factions in dynamic assessment. According to Vygotskian schema, this flexible assessment measure allowed teachers to meet the student's best understanding.[14]

Another difference between radical constructivism and social constructivism was that in radical constructivism the individual created his reality, while social interactions reflected reality in mainstream social constructivism. Glasersfeld described his view of reality, "I claim that we can define the meaning of *to exist* only within the realm of our experiential world and not ontologically."[15] Glasersfeld wrote that an important part of experiential reality was others' influences, which created an intersubjective level. He did not deny that social interactions will occur, but he believed that an individual's experience of social interactions comprised one's reality. According to Glasersfeld, the individual will

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[14] Bodrova and Leong, *Tools of the Mind*, 39-43.

[15] Ernst von Glasersfeld, "A Constructivist Approach to Teaching," in *Constructivism in Education*, 7.

create his reality despite what outside influences occur. Individuals made conscience choices and understood what they were able to construct themselves.[16]

Critiques of Constructivism

Tyrone Jeffrey McNichols developed a framework to establish a relation between free speech and modern education policies. McNichols understood that in practice, teachers mandated that students learn the established standards of the curriculum, yet the constructivist process ideally allows students to create own individual understandings. He noted the contradiction between freedom of thought and efficiency. When teachers encouraged a constructivist process in the classroom, according to McNichols, teachers should either not assure students they would create their own truths, or allow students to construct their own truths rather than limiting students to external standards of truth.[17]

In another critique, Michael R. Matthews wrote that a fundamental epistemological error existed in constructivist doctrine. He stated that "constructivism is the well-known old empiricist wolf in contemporary sheep's clothing."[18] Matthews also noted that Berkely and Vico were anti-scientific

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[16] Glasersfeld, *Radical Constructivism*, 120-128, 191.

[17] Tyrone Jeffrey McNichols, "Constructivism Deconstructed: from Kant to Lyotard. The Process and Criteria for Judgement (Immanuel Kant, Jean Francois Lyotard)" (Ed.D. diss., University of Missouri-Saint Louis, 1999).

[18] Michael R. Matthews, *Old Wine in New Bottles: A Problem with Constructivist Epistemology*, 1992 [paper on-line]; available from http://www.ed.uiuc.edu/PES/92_docs/Matthews.htm, accessed 19 April 2000.

thinkers and expressed concern that certain constructivists defended science education with anti-scientific thinkers.

More practically, teachers may encounter major challenges from colleagues when using a constructivist approach in the classroom. A classroom teacher, "Susan," portrayed one of these challenges, based on the shift from focusing on how and what one teaches, to emphasizing how students learn. During a school in-service, the teachers at Susan's school thought about and discussed how the teachers could create an interdisciplinary unit. Traditional teachers displayed a lack of enthusiasm not only in attempting to integrate learning plans but also in their confidence in students' abilities. Susan's teacher training consisted of a constructivist approach, and her frustration grew as she attempted to employ this approach. It was foreign to her students, and she felt no one else on her teaching team supported her efforts.[19]

Institutional roadblocks may also affect aspects of constructivist teaching. Peter Berger and Thomas Luckman clarified the role of institutional control: "Institutions . . . control human conduct by setting up predefined patterns of conduct, which channel it in one direction as against the many other directions that would theoretically be possible."[20] According to Cremin, standards symbolized cultural and social differences, "But standards involve much more than

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[19] Bruce Marlow and Marilyn Page, *Creating and Sustaining a Constructivist Classroom* (Thousand Oaks, CA: Corwin Press, Inc., 1998), 2-8.

[20] Peter L. Berger and Thomas Luckman, *The Social Construction of Reality* (New York: Anchor Books, 1967), 55.

determinations of what knowledge is of most worth; they also involve social and cultural differences, and they frequently serve as symbols and surrogates for those differences."[21] Despite these challenges, some current teaching practices use constructivist ideas in the classroom.

Constructivist Ideas in the Classroom

Reggio Emilia

The established tradition of cooperative work in multiple areas of the Emilia Romagna community in Northern Italy impacted a learning community that embraced a constructivist approach. Once the Fascist regime ended in 1945, it was natural for this community to begin a school system based on educational innovations with great relevance to children's lives. Loris Malaguzzi soon became a leader for this school system based on the ideas of John Dewey, Lev Vygotsky, and Jean Piaget.

In 1963, the community of Reggio Emilia established the first city-run school. By the end of the 1970's, there were nineteen preschools and thirteen infant-toddler centers. According to Lilian Katz, the Reggio Emilia approach emphasized (and continues to emphasize) projects plus spontaneous play, listening to stories, cooking, painting, clay work, and other daily activities. In this ongoing system, learning activities engaged both the teacher and the students' minds. Teachers from Reggio Emilia schools took a serious and sincere interest in

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[21] Lawrence A. Cremin, *Popular Education and Its Discontents* (New York: Harper & Row, 1990), 9.

students' ideas. Katz also stated that the principle metaphors and models for American primary and secondary education were the industrial and corporate world, while Reggio Emilia's models were communal life and extended families.[22]

The founder of the Reggio Emilia program, Loris Malaguzzi, described how students learn in Reggio Emilia. He said that learning corresponds with an active educational process. He continued to say, "What children learn does not follow as an automatic result from what is taught. Rather, it is in large part due to the children's own doing as a consequence of their activities and our resources." [23] Carlina Rinaldi explained how conflict and negotiation is seen as a driving force for growth. She described how action and group socialization are two important elements of the educational approach.[24]

Harvard's Project Zero

Nelson Goodman founded Project Zero in 1967. He stated, "The ultimate purpose of Project Zero is advancement of the arts through improved education of

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[22] Lella Gandini, "The Reggio Emilia Story," in *First Steps Toward Teaching the Reggio Way*, ed. Joanne Hendrick (Upper Saddle River, NJ: Merrill, an imprint of Prentice Hall, 1997), 2-13; Lilian Katz, "What can we learn from Reggio Emilia?" in *The Hundred Languages of Children: The Reggio Emilia Approach to Early Childhood Education,* ed. Carolyn Edwards, Lella Gandini, and George Forman (Norwood, NJ: Ablex Publishing Corporation, 1993), 19-40.

[23] Loris Malaguzzi, "History, Ideas, and Basic Philosophy: An Interview with Lella Gandini," in *The Hundred Languages of Children: The Reggio Emilia Approach to Early Childhood Education*, 59.

[24] Carlina Rinaldi, "The Emergent Curriculum and Social Constructivism," in Edwards, Candini, and Forman, eds., *The Hundred Languages of Children*, 101-112.

artists, audiences, and management."[25] Howard Gardner and David Perkins co-direct Project Zero. Project Zero's mission of understanding and enhancing, "Learning, thinking, and creativity in the arts, as well as in humanistic and scientific disciplines, at individual and institutional levels"[26] was a central theme in its origination. The research programs from Project Zero focused on developing new approaches to aid individuals, groups, and for institutions to learn in the best manner possible. These programs explored how to teach for understanding, create classrooms with a "culture of thinking," and related classroom instruction to experiences that students will encounter in their future work world, as well as a variety of other related educational goals.

Project Zero collaborated with the Pittsburgh Public School and funding from Educational Testing Service system to create Arts PROPEL. This instrument continued to give music teachers a framework for student-centered teaching ideas based on production, perception, and reflection. Key components of the Arts PROPEL context were "domain projects" and ongoing assessment.[27]

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[25] Nelson Goodman, *Of Mind and Other Matters* (Cambridge, MA: Harvard University Press, 1984), 150.

[26] *Project Zero* [web page]; available from http://pzweb.harvard.edu/, accessed 26 June 2000.

[27] Ellen Winner, Lyle Davidson, and Larry Scripp, eds. *Arts PROPEL: A Handbook for Music*, (Cambridge, MA: Educational Testing Service and Harvard Project Zero, 1992), 19-102.

Other Constructivist Teaching Approaches

Although constructivist ideas may enhance student learning when applied in the classroom, according to Catherine Fosnot, "Constructivism is a theory about learning, not a description of teaching." [28] Bruce Marlowe and Marilyn Page described appropriate language for a constructivist classroom. Rather than a teacher "covering" specific units, they suggested using the term "discover." Rather than "lesson plans," they advocated "learning plans." According to Marlowe and Page, students should investigate through interactive learning experiences and teachers should weave curriculum content together so students can make necessary transfers across disciplines.[29]

George Gagnon and Michelle Collay employed a self-created learning design that they believed could be used in any discipline. Termed the "Constructivist Learning Design,"[30] this design included six sections to guide the teacher in creating a constructivist learning plan: (a) situations (what do you expect the student to do?), (b) groupings (student groups, materials needed), (c) bridge (what do the students already know, what might they learn in this investigation?), (d) questions (what questions will introduce the situation and keep students

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[28] Catherine Twomey Fosnot, "Constructivism: A Psychological Theory of Learning," in Fosnot, ed., *Constructivism: Theory, Perspectives, and Practice*, 29.

[29] Marlowe and Page, *Creating and Sustaining a Constructivist Classroom*, 51-70.

[30] George W. Gagnon and Michelle Collay, "Teachers Perspectives on Constructivist Learning Design," paper presented at the Second Annual Conference, Qualitative Research in Education: Mindful of the Ordinary, St. Paul, MN, University of St. Thomas, 28 June 1996.

thinking?), (e) exhibit (how will students demonstrate the learning experience?), and (f) reflections (what will students be able to use outside of the classroom?).[31]

Roger Bybee created an instructional model based on constructivist ideas which he called "Five E's."[32] In order for teachers to promote appropriate learning opportunities, he suggested that teachers prepare learning plans that are structured around these five stages: (a) engage, (b) explore, (c) explain, (d) elaborate, and (e) evaluate. Bybee concluded by clarifying that the learning process is an ongoing loop, open-ended, and open to change.

According to Brooks and Brooks, knowledge comes from combining the subject and the object. In their book, *The Case for Constructivist Classrooms*, they described how people construct individual understandings. As experiences multiply, Brooks and Brooks said that understandings gradually deepen, especially when students make transfers across disciplines and see concepts as a whole instead of isolated parts. To understand a foreign concept, the constructivist teacher asks students to first think of a familiar framework then make a parallel between the familiar framework and the new concept.[33]

Brooks and Brooks explained that students' lack of retention may be due to never learning concepts in the first place. Constructivist teachers allow students to

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[31] George Gagnon and Michelle Collay, *Constructivist Learning Design* [web page]; available from http://prainbow.com/cld/cldp.html, accessed 1 May 2000.

[32] Roger Bybee, *Constructivism and the Five E's* [web page]; available from http://www.miamisci.org/ph/lpintro5e.html, accessed 31 May 2000.

[33] Brooks and Brooks, *In Search of Understanding*, 4-14.

"classify," "analyze," "predict," and "create," when framing tasks. Encouraging student autonomy and initiative allows for greater student understanding. According to Brooks and Brooks, when teachers seek the "right" answer, student creative thought process is limited. In student discussions, constructivist teachers ask for elaboration of students' responses, encourage student dialogue, and check for student understandings before sharing their own understandings.[34]

Pamela C. Allison and Kate R. Barrett developed a teaching manual for physical education teachers based on constructivist principles. Drawing on the work of Rudolf Laban, Allison and Barrett grounded their ideas in the Movement Approach. According to Allison and Barrett, constructivists see both teachers and students learning and actively working together to solve problems and develop knowledge. They said that teachers should encourage students to elaborate, explore, and demonstrate their knowledge as opposed to repeating what the teacher says. They described the following goals for constructivist teaching:

> Children come to understand that the world . . . is a complex, ever changing place where diversity of perspective exists.
>
> Children become individuals who act responsibly in their individual, social, and cultural environments.
>
> Children become self-confident in what they think, feel, and do.
>
> Children become responsible for their own learning.[35]

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[34] Brooks and Brooks, *In Search of Understanding*, 107-118.

[35] Pamela C. Allison and Kate R. Barrett, *Constructing Children's Physical Education Experiences: Understanding the Content for Teaching* (Needham Heights, MA: Allyn and Bacon, 2000), 5.

Technology and a Constructivist Approach

Roger C. Schank and Chip Cleary advocated reform through technology. In their text, *Engines for Education*,[36] they stated that individualized instruction was needed. Such instruction, moreover, should be geared toward student interests. According to Schank and Cleary, computers can positively influence individualized instruction.

Melissa N. Matusevich observed a strong link between the theory of constructivism and effective use of contemporary technology. She illustrated applications of constructivism in the public schools of Montgomery County, Virginia, such as whole language, student-developed plans for learning, peer review, portfolios and other alternative assessments, authentic activities, life-long learning, and teacher as learner. She noted a resistance to acceptance of implementing constructivist ideas related to current mandated assessment practices of standardized tests and letter grades, as well as the structure of the school day. She noted that the use of technology transformed learning in the following ways: a shift to small group instruction, more teacher coaching, active student engagement, and diversified student learning.[37]

Robert McClintock viewed technology with considerable potential for school reform. "Digital technologies are for education as iron and steel girders,

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[36] Roger C. Schank and Chip Cleary, *Engines for Education* (Hillsdale, NJ: Lawrence Erlbaum Associates, 1995).

[37] Melissa N. Matusevich, *School Reform: What Role can Technology Play in a Constructivist Setting?* [paper on-line]; available from http://pixel.cs.vt.edu/edu/fis/techcons.html, accessed 29 June 2000.

reinforced concrete, plate glass, elevators, central heating and air conditioning, were for architecture."[38] McClintock, along with other colleagues from Columbia University, created the "Institute for Learning Technologies." Because knowledge domains are "complex and ill-structured in a number of ways that require for their mastery experience with a broad range of cases that reflect the complexity and diversity of the field,"[39] McClintock grounded The Institute's philosophy in a constructivist approach.

McClintock discussed his ideas in his book, *Power and Pedagogy: Transforming Education through Information Technology*. According to McClintock, when educators first applied new technologies to current practice, there was a limit on potential new technologies. He suggested personalization of students' electronic environment through the use of notebook computers, networked multimedia, and virtual reconstruction. A well-networked system can keep logistics organized, and provide diagnostic tools and opportunities to create

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[38] Robert McClintock, *Renewing the Progressive Contract with Posterity: On the Social Construction of Digital Learning Communities* [paper on-line]; available from www.ilt.columbia.edu/mcclintock/renew/, paragraph 6, accessed 8 July 2000.

[39] Joshua H. Reibel and Ben D. Wood, *The Institute for Learning Technologies: Pedagogy for the 21st Century* [paper on-line]; available from http://www.columbia.edu/Publications/papers/ILTpedagogy.html, accessed 28 June 2000.

meaningful work. Benefits of this system included increased student motivation, easier access to information as well as increased use of multimedia.[40]

McClintock described how the lack of technology negatively impacted the Progressive Education movement: "Twenty-five inquisitive children could easily exhaust the stock of knowledge and understanding that even the best teachers possess. The resources that children could mobilize beyond the teacher were highly limited."[41] Technological advancements such as the Internet in the classroom, according to McClintock, allowed another trial of progressivism in education.

Constructivist Approaches to Music Education

Although limited in number, some studies examined, directly or indirectly, constructivist philosophy and music education. Hilree J. Hamilton investigated three sixth grade music classes' experiences with improvisation, composition, and peer interaction. Hamilton found that students must construct their own understanding of musical elements in order to compose. Hamilton served as teacher-researcher in her study. Due to the challenges of attempting to interact

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[40] Robert McClintock, *Power and Pedagogy: Transforming Education through Information Technology* (New York: Institute for Learning Technologies, 1992).

[41] Robert McClintock, "The American Experience: A Look Ahead at the Future of ICT in Education," paper presented at Information and Communication Technology Conference, Lenteren, The Netherlands, 8 November 1997 [paper on-line]; available from http://www.ilt.columbia.edulmcclintock/ict, paragraph 34, accessed 28 June 2000.

individually with twenty-seven students during one thirty minute session, she concluded that peer tutoring may be helpful. She also proposed the use of an interactive journal, where student and teacher interact on paper.[42]

Mary L. Serafine studied Piagetian research in music. She concluded the four categories of Piagetian research in music literature were theoretical articles (music theory), empirical research based on conservation, and empirical research based on something other than conservation, which related to classroom music practice. Serafine noted that "major theoretical work needs to be accomplished which would give focus to the attempt to apply Piagetian theory to cognitive development in music. Among the important issues that need treatment were those that derive from stage theory, structuralism, and the question of the role of experience in development."[43]

Lisa Carey DeLorenzo investigated the creative thinking process as well as problem solving behavior. The study's focus was on the creative process rather than product and its goal was to directly observe creative behavior. Sixth grade students from four different schools participated in sound compositions, compositions based on a specific event, and/or compositions based on a particular musical concept. Two composition examples were: (1) create sixty seconds of sound with two sound objects, and (2) improvise a four-measure melody. She

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[42] Hilree Jean Hamilton, "Music Learning through Composition, Improvisation and Peer Interaction in the Context of Three Sixth Grade Music Classes" (Ph.D. diss., University of Minnesota, 1999).

[43] Mary L. Serafine, "Piagetian research in Music," *Bulletin of the Council for Research in Music Education* 62 (spring 1980): 19.

concluded that creative thinking is vital to successful, quality education. But, classroom lessons focusing on one correct answer, convergent thinking, impeded students' creativity.[44]

Yolanda Holliger studied divergent thinking in music through a call and response exercise with eight of her piano students. Graduate students from Teachers College, Columbia University, evaluated the students on rhythmic security, musical quality, feeling for melodic contour, and feeling for tonality. Hollinger concluded that students could develop divergent thinking through a cognitive approach, and that call and response was one appropriate method to do so.[45]

Connie Kieffer studied an arts-integrated approach for high school students using a collaborative and thematic platform. In her study, students chose what specific content they were to study. Kieffer concluded that this was a new and challenging dilemma for the students. In fact, some of them felt certain "basic" concepts should be studied before give freedom to choose their own content. The students listed these basic concepts as the study of reading, writing, and

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[44] Lisa Carey DeLorenzo, "An Exploratory Field Study of Sixth Grade Students' Creative Music Problem Solving Processes in the General Music Class" (Ph.D. diss., Teachers College, Columbia University, 1987); see also Lisa C. DeLorenzo, "A Field Study of Sixth-Grade Students' Creative Music Problem-Solving Processes," *Journal of Research in Music Education* 37 (fall 1989): 188-200.

[45] Yolanda Margaret Holliger, "An Investigative Study on Developing Divergent Thinking Responses in Children Using a Cognitive Approach in Music Education" (Ed.D. diss., Teachers College, Columbia University, 1987).

computation. She also concluded that the connection between real life and theme study was a significant part of the students' experiences.[46]

Terrijann MullerDahlberg discovered the importance of appropriate teacher questioning during a sound study using a constructivist teaching model. The students in MullerDahlberg's study constructed their own understanding of the nature of sound through active exploration and teacher guidance, as well as social interaction, and authentic learning tasks. He concluded that educators should discover how students learn.[47]

Christopher Della Pietra studied the effectiveness of a constructivist model for rhythmic improvisation among high school students. He used a three-phase instructional model that assumed no prerequisite musical knowledge. He found significant results for perception of meter, although no significant differences were found in the reproduction of rhythm or perception of tempo. Students collaboratively developed strategies for rhythmic improvisation according to Della Pietra. This study did not describe what the control group did during the three and one-half weeks the experimental group was engaged in extra work. Della Pietra

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[46] Connie W. Kieffer, "High School Seniors: Constructing Meaning in an Arts-Integrated, Thematic, and Collaborative Learning Milieu" (Ed.D. diss., National-Louis University, 1998).

[47] Terrijann MullerDahlberg, "A Sound Study of Conceptual Understanding During Constructivist Teaching" (Ph.D. diss., The University of North Dakota, 1998).

designed the "constructivist" teaching with teacher presentation before the collaborative student work.[48]

Theodore Buerher formulated an alternative methodology for teaching aural skills using a constructivist approach. He demonstrated that some tenets of constructivism intuitively played a role in traditional aural skills training. Buerher concentrated on three instructional models: (a) cognitive apprenticeship, (b) cognitive flexibility, and (c) problem-based learning. In Buerher's mock unit, he detailed the use of authentic activities such as performing, analyzing actual pieces, writing, and reflecting. His method used multiple perspectives and multiple organizational levels. In addition to the focus of traditional aural skills approach such as meter, rhythm, melody, harmony and form, Buerher's system focused on other parameters such as, "Tempo, texture, timbre, register, dynamics, and articulation . . . . These other parameters provide important information about how the pitches and rhythms are performed. A sensitivity to and understanding of these musical parameters is no less important to the development of a musician's listening skill than the others."[49] Buerher demonstrated a constructivist approach to teaching aural skills due to its content-driven instruction, authentic learning tasks, self-reflection, and the use of technology beyond drill and practice programs.

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[48] Christopher J. Della Pietra, "The Effects of a Three-Phase Constructivist Instructional Model for Improvisation on High School Students Perception and Reproduction of Musical Rhythm" (Ph.D. diss., University of Washington, 1997).

[49] Theodore E. Buehrer, "An Alternative Pedagogical Paradigm for Aural Skills: An Examination of Constructivist Learning Theory and its Potential for Implementation into Aural Skills Curricula" (Ph.D. diss., Indiana University, 2000), 186.

Joseph Shively's designed a framework for beginning band students using a constructivist learning environment. According to Shively, instrumental music learning is as an active process, which should always use a constructivist approach, and teachers enhance student learning when the learning experience reflects multiple perspectives. The three main sections of his framework were background, context, and process. Within these three main sections, he formulated subsections based on constructivist ideas.[50]

Shively centered his framework in concepts of "knowledge domain" and "knowledge base." Knowledge domain is the genus while knowledge base is the species. In other words, knowledge domain encompasses the knowledge expert practitioner's use within a domain. Due to the multiple perspectives to be taken into account and the continuous evaluations and interpretation of a domain, knowledge domains are non-stagnant. Knowledge base refers to an individual's current knowledge, which may be combined collaboratively, yet individual learners' knowledge bases remain independent of one another. According to Shively, the constructivist teacher should be aware of students' prior knowledge. Additionally, the teacher should seek out multiple knowledge domains in creating learning environments, which enhances reflexivity. Shively suggested three examples for encouraging immersion into other practitioner cultures: student conducting, critiquing, and student teaching. According to Shively, a teacher's

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[50] Joseph Landon Shively, "A Framework for the Development and Implementation of Constructivist Learning Environments for Beginning Band Classes" (Ed.D. diss., University of Illinois at Urbana-Champaign, 1995).

goal should be to deepen students' knowledge base through building and application.[51]

In the second section of Shively's framework, context, he endorsed authentic learning experiences by exploring multiple perspectives while fostering learner autonomy, and allowing for student collaboration. In beginning band instruction, small ensemble and solo settings provide greater learner interaction or empowerment than larger ensembles.[52]

According to Shively, learners should be involved in many decision-making processes resulting in increased complexity of the experience. In beginning band class, authenticity of students' initial experiences occurs through exploration and modeling activities. With respect to student knowledge base in beginning band classes, Shively stated that classroom learning environments should allow students to create meaningful connections between prior musical experience and beginning band experience. Along with the process of initial experience and meaningful connections, Shively advocated a shift in responsibility from teacher to student in the use of support artifacts such as instruments, metronomes, tuners, and recording devices.[53]

In the third section, "Process," Shively establishes that only partial planning might occur in constructive learning environments. According to Shively, the

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[51] Joseph Landon Shively, "A Framework for the Development and Implementation."

[52] Ibid.

[53] Ibid.

components of process events may occur in a varied progression. The manner in which the teacher initiates the learning process sets the tone for the overall learning environment. Shively emphasizes that teachers should not assume how the learner might construe the experience. As the emphasis is shifted from teacher to student, Shively trusts the context rather than the teacher to guide the decision making process.[54]

In relation to the beginning band student's musical experience, Shively affirms that the learner should be given ample opportunities to interpret the music. He describes this as a "continuous process of experience, interaction, and evaluation."[55] Shively claims purposeful interaction is vital to appropriate constructivist learning environments.

Shively's framework provided a model for music educators interested in incorporating authentic activities into the classroom. Shively considered this framework as theoretical and stated (telephone interview, 1 June 2000) that he has not employed this process in an actual beginning band classroom.

Summary

This review of literature related to constructivism indicates that ideas informing current constructivist philosophy span a lengthy history and arise from a variety of thinkers. Certain writers assert polemic ideas, separating their

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[54] Joseph Landon Shively, "A Framework for the Development and Implementation."

[55] Ibid., 206.

philosophy from opposing viewpoints, while other writers' viewpoints overlap each other and share common themes. Although constructivist ideas are extraordinarily broad, the following eight general concepts seem to inform a constructivist approach: (1) prior experience affects present and future learning, (2) students learn best when they actively discover concepts of interest to them, (3) hands-on experience leads to understanding, (4) student-centered approaches as opposed to teacher-centered instruction enhances student learning, (5) teacher language may affect the quality of student learning experience (learning plans versus lesson plans, discover concepts versus covering units), (6) potential student development and performance should play a part of assessment, (7) action and socialization are key elements for learning, and (8) appropriate use of emerging computer technology may make constructivist approaches more feasible in certain contexts.

The need for this investigation is evident in the fifth section of this chapter. In Serafine's study of Piagetian research in music she concluded that there is a need for exploring the role of experience in development. DeLorenzo observed a need for divergent thinking in creativity, and MullerDahlberg noted the need to discover how students learn.

In *Vision 2020*, Paul Lehman endorsed the need for new teaching strategies in music education:

> they (music educators) must be sprinkled with new and imaginative practices on a regular basis in order to improve the teacher's effectiveness and to ensure

> the personal growth and development that lie at the root of professionalism in teaching.[56]

The following chapter investigates possible contributions of John Dewey to such new strategies.

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[56] Clifford K. Madsen, ed., "How Can the Skills and Knowledge Called for in the National Standards Best Be Taught?" *Vision 2020* (Reston: MENC--The National Association for Music Education, 2000), 100.

CHAPTER IV:

CONTRIBUTIONS OF JOHN DEWEY TO A CONSTRUCTIVIST APPROACH TO ELEMENTARY MUSIC EDUCATION

John Dewey: A Brief Biography

John Dewey's (1859-1952), birthplace was Burlington, Vermont. Dewey, third of four sons, attended grammar school at District School No. 3, later called North Grammar School in Burlington. In 1875, Dewey graduated from Burlington High School. Dewey's daughter Jane acknowledged that Dewey's early teacher-centered educational experiences influenced his future passion for quality student-centered education.[1]

In 1875, Dewey began studies at The University of Vermont. Henry A. P. Torrey taught him speculative and social theory and Dewey studied Darwinian evolutionary theory. On his own he avidly explored ideas such as positivism, evolution, and agnosticism. Graduating Phi Beta Kappa in 1879, Dewey delivered the Commencement Day oration titled, "Limits of Political Economy."[2]

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[1] Jane Dewey, "Biography of John Dewey," in *The Philosophy of John Dewey, Library of Living Philosophers,* vol. 1, ed. Paul Arthur Schilp (Chicago: Open Court Publishing Co., 1939), 3-45.

[2] Larry Hickman, "Dewey, John," *American National Biography*, 1999; and Barbara Levine, *Chronology of John Dewey's Life and Work* [web page]; available from www.siu.edu/~deweyctr, accessed 27 June 2000.

Dewey was uncertain of his future profession and continued his studies with Torrey as he taught from 1879-1881 in an Oil City, Pennsylvania, public school. There he taught secondary school algebra, classics, science, and served as assistant principal. From 1881-1882, Dewey taught and served as principal at Lake View Seminary in Charlotte, Vermont. He spent his weekends in Burlington where he studied philosophy under the continued guidance of William Torrey Harris. After receiving encouragement from W. T. Harris, the editor of the *Journal of Speculative Philosophy*, for an essay titled, "The Metaphysical Assumptions of Materialism," he applied to graduate school in 1881 at the recently formed Johns Hopkins University.[3]

While at Johns Hopkins, Dewey reportedly experienced a stimulating atmosphere. Among his teachers were G. Stanley Hall and Charles S. Pierce with whom he studied experimental psychology and logic respectively. Yet his studies with George Sylvester Morris exercised the most influence on his development at the time. Dewey later declared Morris's neo-Hegelian idealism helped him to resolve the dualisms of New England culture.[4]

After completing his doctorate at Johns Hopkins in 1884, Dewey taught at the University of Michigan for ten years. In 1886 Dewey married one of his students, Harriet Alice Chipman. They had seven children. Dewey's observations

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[3] Hickman, "Dewey, John."

[4] Ibid.

of his own children led him to note the inconsistencies between observed natural development and current schooling.

Dewey's social, political, and economic views became progressively more radical. He wanted to make philosophy, as opposed to mere speculation, relevant to practical, public life. While at Michigan he published *Psychology* (1887), *New Essays Concerning the Human Understanding* (1888), *Outlines of a Critical Theory of Ethics* (1891), and *The Study of Ethics: A Syllabus* (1894). These works indicated a turning away from Hegelian ideas and Dewey's acceptance of William James's ideas such as considering humans biological organisms in a concrete environment, and that the individual self is responsible to judge, observe, and make.[5]

In 1894, Dewey became chairman of the education, philosophy, and psychology department of the newly formed University of Chicago. During his time in Chicago, the *Psychology Review* published Dewey's "The Reflex Arc Concept in Psychology" (1896). In this article Dewey wrote about the interaction of an organism with its environment, a theme that would consistently inform his later writings.

Dewey became familiar with the negative influences of urbanization through his associations with Jane Addams's Hull House, a gathering place for a wide mix of union organizers, radicals, and workers. With the assistance of colleagues, Dewey analyzed societal and educational challenges related to

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[5] Hickman, "Dewey, John."

increased immigration and technological improvements. During this time, he wrote *Studies in Logical Theory* (1903), which he dedicated to William James.[6]

In Chicago, Dewey founded and directed a laboratory school popularly known as the "Dewey School," where he developed his ideas on pedagogical method. Parents, who wanted their children to experience Dewey's idea of a unique education, supported this school financially and gave moral support. As a result of Dewey's experiences with the laboratory school, Dewey wrote *The School and Society* (1899), now translated to over twelve different languages. He also wrote *The Child and the Curriculum*. Unbeknownst to Dewey, the laboratory school merged with what became the University's School of Education. The parents of the school protested vigorously. They grouped together into what was most likely the first active Parent Teacher Association. Lack of funds, disagreements with the administration, and lack of proper materials contributed to Dewey's resignation from the University of Chicago. In 1905 Dewey accepted a post in the philosophy department at Columbia University. Dewey remained there the rest of his professional life.[7]

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[6] John Dewey, *Studies in Logical Theory* (Chicago: The University of Chicago Press, 1903).

[7] John Dewey, *The School and Society*, rev. ed., (Chicago: The University of Chicago Press, 1915); John Dewey, *The Child and the Curriculum* (Chicago: The University of Chicago Press, 1922); and Alan Ryan, "Deweyan Pragmatism and American Education," in *Philosophers on Education*, ed. Amelie Oksenberg Rorty (New York: Routledge, 1998), 394-410. Some say Dewey was fired. See Liz Wing, "The Future of Arts Education," *Bulletin of the Council for Research in Music Education* 117 (summer 1995): 51-65.

Dewey's corpus of professional writings integrated his belief that experience constituted a large factor of one's learning. Dewey's experiences at the University of Chicago directly influenced his texts *How We Think* (1910), and *Democracy and Education* (1916). Dewey wrote *Reconstruction in Philosophy* (1920), *Experience and Nature* (1925), *The Quest for Certainty* (1929), and *Art as Experience* (1934) while on the faculty at Columbia University. Dewey's ideas on education permeate his writings, since his focus on the concept of experience (i.e., one's engagement with the world as a form of knowing) is central to his philosophy as a whole. See Table 1 for a chronological list of Dewey's books.[8]

Table 1. A Chronological List of John Dewey's Books

The Public and Its Problems	1927
The Quest for Certainty	1929
Individualism, Old and New	1930
Art as Experience	1934
A Common Faith	1934
Liberalism and Social Action	1935

[8] John Dewey, *Democracy and Education* (New York: The Free Press, a Division of Simon & Schuster, Inc., 1944); John Dewey, *How We Think* (Boston: D.C. Heath and Co., 1933); John Dewey, *Experience and Nature* (New York: Dover, 1958); John Dewey, *The Quest for Certainty: A Study of the Relation of Knowledge and Action* (New York: Minton, Balch & Company, 1929); John Dewey, *Reconstruction in Philosophy and Essays 1920*, ed. by Jo Ann Boydston (Carbondale, IL: Southern Illinois University Press, 1988); John Dewey, *Art as Experience* (New York: G.P. Putnam's Sons, 1934).

Table 1—*Continued*

Experience and Education	1938
Logic: The Theory of Inquiry	1938
Theory of Valuation	1939
Freedom and Culture	1939
Human Nature and Conduct	1922
Experience and Nature	1925
The Public and Its Problems	1927
The Quest for Certainty	1929
Individualism, Old and New	1930
Art as Experience	1934
A Common Faith	1934
Liberalism and Social Action	1935
Experience and Education	1938
Logic: The Theory of Inquiry	1938
Theory of Valuation	1939
Freedom and Culture	1939
Knowing and the Known, a collaboration with Arthur F. Bentley	1949

Dewey's Contribution to Constructivist Theory and Pedagogy

John Dewey identified and predicted a potential pedagogical conflict between individual freedom and a collective well being: "The problem with achieving both of these values [collective well-being and individual freedom] without the sacrifice of either one is likely to be the dominant problem of civilization for many years to come."[9] In a similar vein, Howard Gardner described the challenge of "individually configured education:" "It may be hard to think of individually configured education in a classroom with thirty or more students, not all of them as docile or motivated as one might like, but it is not impossible."[10] Gardner stated that although it is necessary for students to learn some common themes, teachers may nonetheless assess them in diverse ways.

Dewey's prediction rings true not only in contemporary constructivist writings, but also in a constructivist approach to learning experiences. The contemporary debate between social and psychological constructivist philosophies described in chapter three dramatizes this conflict of interdependency and autonomy related to learning. Dewey's notion of "experience" offers a balance between collective well being and personal freedom, between democratic society and the individual child. Because of the importance of experience in Dewey's philosophy, this paper first examines Dewey's concept of experience.

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[9] Katherine Camp Mayhew and Anna Camp Edwards, *The Dewey School: The Laboratory School of the University of Chicago 1896-1903*, First Atheling Edition, with an introduction by John Dewey (New York: Atherton Press, 1965), xiii.

[10] Gardner, *Intelligence Reframed*, 153, 150-155.

Dewey's Concept of Experience

The very process of living involves interaction between organisms and environments. This interaction informs Dewey's key concept of experience. Experience does not occur "from scratch." According to Dewey, it is only when situations lack interaction with the environment and become passive that they become inferior. According to Dewey, environment may take a physical or mental form. Moreover, a physical object is the expressive product that connects integrally to an action and its result:

> Every "mind" that we are empirically acquainted with is found in connection with some organized body. Every such body exists in a natural medium to which it sustains some adaptive connection: plants to air, water, sun, and animals to these things and also to plants. Without such connections, animals die; the "purest" mind would not continue without them.[11]

Dewey clarifies his concept of experience in his discussions of: (1) means and ends, (2) growth, learning, (3) school roles in learning, (4) authentic activities, (5) social influences, (6) constant interplay of present, past, and future experiences, (7) habits, (8) limitation of experiences, and (9) sense and experience.

Means and Ends

Dewey cautions about a separation of means from ends, and stresses that such separation reduces an activity's significance. According to Dewey, "Every

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[11] Dewey, *Experience and Nature*, 277-278.

means is a temporary end until we have attained it. Every end becomes a means of carrying activity further as soon as it is achieved."[12]

In *Experience and Nature*, Dewey illustrated this point with reference to the experience of thinking: "Every successive stage of thinking is a conclusion in which the meaning of what has produced it is condensed; and it is no sooner stated than it is a light radiating to other things—unless it be a fog which obscures them."[13] Thinking and understanding, according to Dewey, grew out of activity and action. Dewey viewed experience as the initial stage for developing thinking.[14]

Growth

For Dewey, growth is synonymous with education. Growth leads to more growth. According to Dewey, experience is educative only if it produces growth. Educative experience should draw upon student interests and it should result in students desiring more learning experiences that may connect directly or indirectly to the prior learning experience. Dewey proposes that, "Since growth is the characteristic of life, education is all one with growing; it has no end beyond itself."[15]

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[12] Dewey, *Democracy and Education*, 106.

[13] Dewey, *Experience and Nature*, 378.

[14] Dewey, *Democracy and Education*, 153-154.

[15] Ibid., 53.

Dewey's Concept of Learning

Dewey's philosophy of learning grounds itself to experience; indeed, Dewey maintains that "Theory separate from concrete doing and making is empty and futile."[16] This educational philosophy has characteristics similar to a contemporary constructivist pedagogy. Although Dewey may have been against labels himself, contemporary writers describe Dewey as a constructivist.[17] Indeed, as Dewey himself states: "That education is not an affair of 'telling' and being told, but an active and constructive process, is a principle almost as generally violated in practice as conceded in theory."[18]

Dewey holds that inquiry involves searching and pondering, rather than immediate answers to questions. Reconstructing, reorganizing, and transforming

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[16] Dewey, *Quest for Certainty*, 281.

[17] See Denis C. Phillips, "An Opinionated Account of the Constructivist Landscape," in *Constructivism in Education: Opinions and Second Opinions on Controversial Issues*, ed. Denis C. Phillips (Chicago: The University of Chicago Press, 2000), 13-14; Kenneth Howe and Jason Berv, "Constructing Constructivism, Epistemological and Pedagogical," in *Constructivism in Education: Opinions and Second Opinions on Controversial Issues*, ed. Denis C. Phillips (Chicago: The University of Chicago Press, 2000), 30, 36-37; Eric Bredo, "Reconsidering Social Constructivism: The Relevance of George Herbert Mead's Interactionism," in *Constructivism in Education: Opinions and Second Opinions on Controversial Issues*, ed. Denis C. Phillips (Chicago: The University of Chicago Press, 2000), 129-130, 141-142, 147-149; Jim Garrison, "Toward a Pragmatic Social Constructivism," in *Constructivism and Education* ed. Marie Larochelle, Nadine Bednarz, and Jim Garrison (Cambridge, UK: Cambridge University Press, 1998), 43-49, 52-53, 55; and Michael Bentley, "Constructivism as a Referent for Reforming Science Education," in *Constructivism and Education* ed. Marie Larochelle, Nadine Bednarz, and Jim Garrison (Cambridge, UK: Cambridge University Press, 1998), 238-240.

[18] Dewey, *Democracy and Education*, 38.

play a part in the educational process. Children experience joy when they discover a new concept on their own: "The charm which the spontaneity of little children has for sympathetic observers is due to perception of this intellectual originality. The joy that children themselves experience is the joy of intellectual constructiveness—of creativeness."[19] Dewey went on to say that the manifestation of this active educational philosophy requires the "school environment be equipped with agencies for doing."[20]

Schools' Roles in Learning

According to Dewey, schools should create desire for students' continued growth. Many students form habits directly related to their school experiences. School experiences that instill internal motivation may allow students to form positive, active habits resulting in growth. Conversely, student growth may be diminished when thoughtless routine floods school experiences. Similar to a constructivist approach, Dewey believed that a school should assess and consider student need, student activities, and student perspectives. A teacher's sympathetic attitude toward learners' experiences boosts students' feelings of accomplishment and self-worth. When school experiences connect to a child's daily life, the students' comprehension and transfer vastly improves.[21]

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[19] Dewey, *Democracy and Education*, 159.

[20] Ibid., 38.

[21] Ibid., 108-109.

Authentic Activities

Activities that promote learning need to be meaningful to the learner: "Training by isolated exercises leaves no deposit, leads nowhere; and even the technical skill acquired has little radiating power, or transferable value."[22] Dewey held that learning is easier for students who have opportunities to do physical activities. Activities promoting children's natural impulses for play brighten students' school experiences. Native tendencies "to explore, to manipulate tools and materials, to construct, to give expressions to joyous emotions"[23] are fundamental to a child's education. Moreover, Dewey contended that: "When exercises which are prompted by these instincts are a part of the regular school program, the whole pupil is engaged, the artificial gap between life in school and out is reduced."[24] In addition to contextual, authentic activities, Dewey also suggested that social influences also play an important role in learning.

Social Influences on Learning

Dewey firmly believed that social influences impact one's learning: "the very process of living together educates. It enlarges and enlightens experience; it stimulates and enriches imagination; it creates responsibility for accuracy and

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[22] Dewey, *How We Think*, 191.

[23] Dewey, *Democracy and Education*, 195.

[24] Ibid., 195.

vividness of statement and thought."[25] In *My Pedagogic Creed* (1897), Dewey suggested that education requires a balance between the sociological and the psychological. A child's interests, talents, and habits must be the basis for education, according to Dewey. He believed that continued interpretation of each child's psychological framework transforms into social uses.[26]

The center of a child's education, according to Dewey, should be the social activities of the child. Although Dewey's focus for education is the child's own social interests, Dewey maintained that growth is a by-product of activity with the world as opposed to inward focus on the self. Dewey believed that education reflects a child's own life perspective, plus a simplified version of contemporary society. Continuity of a child's growth enhances his life when education is meaningfully connected to home life.[27]

Society, in Dewey's view, gives direction to the future by its influence on youth. Moreover, youth grow through activity and doing, both individually and socially. Growth occurs through action; it is not the result of passivity. It is a biological fact that humans rely on others for the first few years of life. This

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[25] Dewey, *Democracy in Education*, 6.

[26] Dewey, "My Pedagogic Creed," in *The Essential Dewey, Volume I: Pragmatism, Education, Democracy*, ed. Larry Hickman and Thomas Alexander (Bloomington, IN: Indiana University Press, 1998), 229-235.

[27] Dewey, *Democracy and Education*, 358-360.

dependency, according to Dewey, is constructive in that humans grow through physical and mental interactions.[28]

Constant Interplay of Past, Present, and Future

One's prior life experiences as well as previous generations' experiences play a role in both present and future occurrences, according to Dewey. The social influence of history impacts present behavior, and social influences impact, for the most part, habit formation. Dewey says: "Active habits involve thought, invention, and initiative in applying capacities to new aims. They are opposed to routine which marks an arrest of growth."[29]

Habits

Prior experiences may influence one's acquisition of habits. Habits may potentially be positive or negative. Dewey described "bad" habits as "so severed from reason that they are opposed to the conclusions of conscious deliberation and decision."[30] Habits may either be routine, in which the action controls the doer, or thoughtful actions that promote growth. Habits require cooperation of environment and organism. Habits are an outward sign of how prior experiences shape present actions. Dewey says, "Apart from communication, habit-forming wears grooves;

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[28] Dewey, *Democracy and Education*, 42-44.

[29] Ibid., 52-53.

[30] Ibid., 49.

behavior is confined to channels established by prior behavior."[31] There is potential for these acquired habits to be profitable. Dewey contends that the environment itself and one's use of it are equally important in habits. For example, the habit of eating requires a mixture of environment and organism. Both food from the environment and an organism to consume the food are necessary for the habit.[32]

Limitations of Experience

Some limitations of experience spring from human weaknesses. Dewey noted examples of these weaknesses: "They [limitations] spring from apathy, conceit, self-pity, tepidity, fear, convention, routine, from the factors that obstruct, deflect and prevent vital interaction of the life creature with the environment in which he exists."[33] Such limitations may prevent one's experience from showing expression and may prevent quality experiences from occurring.

Dewey maintains that excess of doing and excess of receptivity also result in a limited experience. This lack of balance between activity and contemplation can negatively affect one's experience. According to Dewey, an imbalance

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[31] Dewey, *Experience and Nature*, 280.

[32] Dewey, *Democracy and Education*, 41-46.

[33] Dewey, *Art as Experience*, 132.

between these conditions results in blurred perceptual relations. Experience becomes distorted when "there is no balance between doing and receiving."[34]

In their efforts to reform education, the promoters of the Progressive Education movement distinguished teaching practices that relied on simple transfer of knowledge and those that promoted more meaningful learning experiences. Such efforts of the Progressive movement worked to combat the rote recitation that was common the latter part of the nineteenth century. These reform efforts appear to create a balance between doing and receiving, which Dewey notes is vital for quality experiences. For instance, Francis Parker initiated student activities that involved idea transfer and active thinking. Parker's efforts encouraged a balance between doing and reflecting. Progressive educators, such as Parker, sought to overcome and transcend the limited educational experiences they felt were characteristic of their time. In Dewey's framework, such limited experiences related both to a lack of balance between doing and receiving and productive use of one's senses.

Senses and Experience

Dewey defined the senses as "the organs through which the live creature participates directly in the on-goings of the world about him."[35] One's senses and one's ability to use one's senses directly affects the quality of an experience.

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[34] Dewey, *Art as Experience*, 45.

[35] Ibid., 22.

Senses, both mental and physical, are necessary for consummation of an experience. Because the senses react to external stimuli, what counts in Dewey's framework is one's reaction to received stimuli. Such reaction takes the form of mental and/or physical activity. According to Dewey, this activity is vital; "what counts is what we *do*, not what we receive."[36]

Dewey suggested that reflection time and ability to observe from multiple perspectives may enhance one's best understanding of an experience. Dewey noted the connection between keen perception and one's activity through the senses: "The expressiveness of the object is the report and celebration of the complete fusion of what we undergo and what our activity of attentive perception brings into what we receive by means of the senses."[37] Dewey emphasized the connection between experience and art, "Art would not amplify experience if it withdrew the self into the self nor would the experience that results from such retirement be expressive."

Summary

Thus far, an exploration of Dewey's concept of experience indicates that: (1) experience is the interaction between organism and environment, (2) the means and the ends of an experience are inter-related, (3) growth leads to more growth and defines Dewey's idea of education, (4) experience is the key aspect of Dewey's concept of learning, (5) schools should promote student desire for continued

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[36] Dewey, *Art as Experience*, 102.

[37] Ibid., 103.

growth through activities that relate to student perspectives, (6) social influences highly impact learning, (7) past experience relates to present experience, which in turn relates to future experiences, (8) habits may be positive or negative, (9) limitations of experience spring from human weaknesses, and (10) reaction to received stimuli tends to define the quality of an experience.

Dewey's Concept of Art and Aesthetic

According to Dewey, art best exemplifies his concept of experience. Dewey differentiates between artistic and aesthetic; " 'artistic' refers primarily to the act of production and 'esthetic' to that of perception and enjoyment."[38] He noted that, unfortunately, there is no word in the English language that combines these two terms. Though Dewey employed the term "esthetic," his meaning is not necessarily the same as others who use the term. Others may use "esthetic" to connote a beauty separated from daily experiences. Dewey, on the other hand, applies this term to life itself.

By their nature, contended Dewey, human experiences can portray artistic engagement. People who notice the artistic engagement possess an attitude and mental awareness that enables them to experience the delight of aesthetic encounters. Those who artistically engage in activity also enjoy the beauty of their

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[38] Dewey, *Art as Experience*, 46. At the time of Dewey's writing, the common spelling of aesthetic was "esthetic." Today either spelling may be used interchangeably, but the contemporary common spelling is "aesthetic."

experience. "Art is a quality of doing and what is done."[39] In this sense, life itself is capable of becoming art. Work, which involves an attitude of play, can also be art, according to Dewey.

This section examines (1) aesthetic experiences, (2) connections between ordinary and aesthetic, (3) connections between organism and environment, and (4) expression. Such examination serves to explicate more thoroughly Dewey's concepts of art and aesthetic.

Aesthetic Experiences

It is important to note the difference between Dewey's use of the term "experience" and his reference to "*an* experience." "*An* experience" differs from experience in that it has specific aesthetic qualities not always found in the common notion of experience. Dewey advocates that "*an* experience," one that is satisfactory "is so rounded out that its close is a consummation and not a cessation. Such an experience is a whole and carries with it its own individualizing quality and self-sufficiency."[40] Dewey tends to employ the term "esthetic" uniquely, even in the context of his own era.[41]

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[39] Dewey, *Art as Experience*, 214.

[40] Ibid., 35.

[41] The history of the idea and the term, "aesthetic" is an interesting aside. Dewey looked historically at the notion of "art for arts sake." He noted that in Plato's time, music was an integral part of the community and played a key role in the idea of ethos. "Art for arts sake" during Plato's time was incomprehensible. Dewey notes that most European museums testify to the rise of nationalism by their art exhibits of conquest. Capitalism, Dewey commented, influences the

To understand the aesthetic, Dewey suggests considering scenes such as "the fire-engine rushing by; the machines excavating enormous holes in the earth; the human-fly climbing the steeple-side; the men perched high in air on girders, throwing and catching red-hot bolts."[42] Dewey went on to say that people who notice art in such experiences as the grace of the ball-player who infects the attentive crowd, the individual who takes pleasure in caring for plants, and "the zest of the spectator in poking the wood burning on the hearth and in watching the darting flames and crumbling coals,"[43] all show awareness of aesthetic experience.

This idea of aesthetic experiences connected to daily life is quite the opposite of theories that posit separation of art from common experience. Dewey suggested that there are degrees of completeness to an aesthetic experience; therefore, the connection between the aesthetic and ordinary is relative. For example, one may enjoy the experience of a meal and lose oneself in the atmosphere of the room, the tableware, the smells, and the tastes, enjoying an aesthetic experience. Yet different meals can have different levels of aesthetic qualities. A banquet, with a clear beginning, middle, and end, is more rounded out

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development of art museums set apart from daily life. See *Art as Experience*, 7-8; The meaning of "art," "fine art," and "aesthetic" changes significantly through different time periods. Dewey referred to the arts in a general way because of social conditions of his day. His generation used the idea of arts to mean all the various art disciplines. Until the seventeenth century, society separated the term "art" into specific disciplines such as music, dance, visual arts, etc. See David Elliott, *Music Matters: A New Philosophy of Music Education*, (New York: Oxford University Press, 1995), 21-26.

[42] Dewey, *Art as Experience*, 5.

[43] Ibid., 5.

than eating a meal while working. An elegant dinner party may have more intimate qualities than a casual cookout.[44]

According to Dewey, aesthetic experiences have emotional qualities such as joy, anger, hope, desperation, fear, and contentment. Emotional qualities can be a significant factor in an aesthetic experience. They occur throughout an experience, yet they are not separate entities of an experience. According to Dewey, emotions occur as a result of an experience. They do not occur alone or without an experience. An element of passion may be aesthetic, yet the aesthetic is not over-emotional. Dewey proposes that "when we are overwhelmed by passion, as in extreme rage, fear, jealousy, the experience is definitely non-esthetic."[45]

It may help to clarify Dewey's idea of *an* experience by describing what it is not. Interruptions of thought, such as self-consciousness, temporal factors, or attempting to describe or analyze a situation while immersed in its immediacy cause disruption of an experience. An experience flows from one part to the next, yet its parts are distinctive.

Dewey's river analogy depicts this notion of continuous experience. A river flows constantly, and it changes the surrounding debris through its steady flow. A specific underlying quality, a unity that is not intellectual, practical, or emotional, constitutes *an* experience. Dewey maintains that, "the experience itself

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[44] Dewey, *Art as Experience*, 26-27.

[45] Ibid., 49.

has a satisfying emotional quality because it possesses internal integration and fulfillment reached through ordered and organized movement."[46]

Connection between Ordinary and Aesthetic Experiences

Dewey attempts to restore what he terms a continuity between ordinary experiences and the aesthetic. Why did Dewey maintain the need to connect ordinary experiences with the aesthetic? According to Dewey, all experiences can be potentially aesthetic. Dewey explores this idea by reminding the reader that mountains are part of the earth: "Mountain peaks do not float unsupported; they do not even just rest upon the earth. They *are* the earth in one of its manifest operations."[47] When aesthetic perceptions are disconnected and isolated, Dewey purports how it "deeply affects the practice of living, driving away esthetic perceptions that are necessary ingredients of happiness or reducing them to the level of compensating transient pleasurable excitations."[48] An enhanced quality of

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[46] Dewey, *Art as Experience*, 38; 36-38. A contemporary issue related to Dewey's river analogy is the ecological damage resulting from an unnatural interruption of dams. Prior to 1964, the Colorado River flowed freely through the Grand Canyon. Now the Glen Canyon Dam has brought massive change and destruction on the river's surface as well as deep below. This river, which once flowed its natural red color, now flows a green color. As Dewey noted, continuous experience is akin to the free flow of a river and unnatural interruptions can have negative influences on continuous experience.

[47] Ibid., 3. Keeping this idea in mind as one continues to read Dewey helps one understand Dewey's connection of organism and environment. Environmental changes form mountains. Wind, precipitation, and glaciers form and shape this part of the earth. It is the relationship or connection between the organism (mountain) and environment that create the beauty of the mountain.

[48] Ibid., 10.

life results when one's life gains continuity. Continuity of experiences centers on the connections between an organism and its environment.

Connections between Organism and Environment

According to Dewey, self and object combine in aesthetic experiences: "For the uniquely distinguishing feature of esthetic experience is exactly the fact that no distinction of self and object exists in it, since it is esthetic in the degree in which organism and environment cooperate to institute an experience in which the two are so fully integrated that each disappears."[49] This integral relationship can occur in an extensive variety of experiences.

According to Dewey, even crude experiences can demonstrate aesthetic qualities when the experience connects to the environment: "Even a crude experience, if authentically an experience, is more fit to give a clue to the intrinsic nature of esthetic experience than is an object already set apart from any other mode of experience."[50] In addition to the environment and the organism connecting, perception plays a key role.

One's aesthetic perception gives crude experience expressiveness. According to Dewey, "an esthetic experience, the work of art in its actuality, is *perception*."[51] Dewey believed that perception goes beyond mere recognition, and

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[49] Dewey, *Art as Experience*, 249.

[50] Ibid., 11.

[51] Ibid., 162.

that it underscores an action and its consequence. Deep understanding of an experience enhances one's perceptive awareness of its potential expressiveness. When does perception occur? According to Dewey, "Perception is born when solicitude for objects and their qualities brings the organic demand for attachment to consciousness . . . . Perception that occurs for its own sake is full realization of all the elements of our psychological being."[52] Perception affects the quality of ordinary experiences.

Cooperation of environment and organism is as necessary in the arts as it is in experience generally. For example, a musician must use the environment to perform. An instrumentalist plays her instrument; a vocalist inhales and uses breath support; and a conductor gestures through space. In these examples performing musicians actively use their surroundings for their art. Musical ensembles not only use their physical environment, but cooperation of their social environment as well.

Social factors are a component of the environment discussed above. According to Dewey, "Conduct is always shared."[53] People react to one another's habits by support, protest, approval, disapproval, or other reaction, or even by not reacting. Neglecting to react to a situation can send a hidden message of approval.

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[52] Dewey, *Art as Experience*, 256.

[53] John Dewey, *Human Nature and Conduct* (New York: Random House, Inc., 1957), 17.

Moral habits, vices, or virtues are "working adaptions of personal capacities with environing forces."[54]

Dewey contends that throughout history as well as in contemporary life the arts connect closely to community life. Some meanings from past events remain as integral components of the self. This idea demonstrates the concept of constant interplay between past and present. When art connects to natural events, growth occurs. This growth results from enhanced perception. Perception is selective. When adaption occurs through active expansion rather than passive modification, order develops and normal growth occurs.

When art disjoins one's interaction with the world, its very nature becomes distant. The separation of fine art and other activities portrays art with an esoteric character: "But if fine art has nothing to do with other activities and products, then of course it has nothing inherently to do with the objects. . . . It has an occult source and an esoteric character."[55] Since the connection between the aesthetic and the ordinary is relative. Their close interaction through art may take various forms of expression.

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[54] Dewey, *Human Nature and Conduct*, 16.

[55] Dewey, *Experience and Nature*, 389.

Expression

Humans need to express themselves: "Art was born of need, lack, deprivation, incompleteness."[56] Every person may perceive expressive meaning differently. Emotions bring out the aesthetic character of an experience and they provide "unity in and through the varied parts of an experience."[57] "Expression, like construction, signifies both an action and its result."[58] Dewey's concept of art allows for an enhanced quality of life. Art "quickens us from the slackness of routine and enables us to forget ourselves by finding ourselves in the delight of experiencing the world about us in its varied qualities and forms."[59]

According to Dewey, creating works of art is extensively demanding, "the production of a work of genuine art probably demands more intelligence than does most of the so-called thinking that goes on among those who pride themselves on being 'intellectuals.' "[60] The challenges of music expression can result in evocative portrayals of life: "Music . . . expresses in a concentrated way the shocks and instabilities, the conflicts and resolutions, that are dramatic changes enacted upon the more enduring background of nature and human life."[61]

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[56] Dewey, *Experience and Nature*, 355.

[57] Dewey, *Art as Experience*, 42.

[58] Ibid., 82.

[59] Ibid., 104.

[60] Ibid., 46.

[61] Ibid., 236.

The cerebral connections associated with sound in the brain make up a larger part of the brain than the other senses, according to Dewey. Moreover, sound penetrates the body from the outside. Sound directly infiltrates the body. Because the qualities of sound may have a direct emotional effect, "music has been classified as both the lowest and the highest of the arts."[62]

Dewey maintained that all conscious experience has some imaginative quality and that aesthetic experience is imaginative. Dewey explained that imagination results from the interaction between prior knowledge and present experience: "When old and familiar things are made new in experience, there is imagination."[63] Dewey used the ideas of "inner and outer vision"[64] when he describes the conflict that artists undergo. The artist's inner vision controls her outer vision and as the two modes interact, imagination takes form in the artwork.

Summary

This examination of Dewey's concept of art and aesthetic indicates that: (1) art best exemplifies experience, (2) an aesthetic experience closes as a consummation, not a cessation, (3) Dewey conceives aesthetic experience as connected to daily life, in contrast to aesthetic perspectives that relegate the aesthetic to a separate entity termed "fine art," (4) emotions are connected to

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[62] Dewey, *Art as Experience*, 237, 238.

[63] Ibid., 267.

[64] Ibid., 268.

experience and occur as a result of an experience, (5) an experience flows from one part to the next with distinctive parts, (6) aesthetic perception can give even crude experience expressiveness, (7) physical and social environments and organisms connect in art experiences, (8) art connects to community life, (9) art was born of a human need to express, and (10) aesthetic experience is imaginative, not prescribed.

Constructivism in Music Education from a Deweyan Perspective

Music educators who aspire to encourage their students to be independent artistic musicians and competent thinkers may choose to employ Dewey's philosophy as a basis for a constructivist approach to music education. According to Dewey both the learner and the teacher have specific roles in education. There are also specific characteristics assigned these roles in a constructivist approach. This section examines a constructivist approach with respect to the roles of the learner, roles the teacher, the learning content, and musical experiences from a Deweyan perspective. It also critically looks at a music philosophy based on Dewey's writings and two specific constructivist approaches to music education.

Role of the Learner

In a Deweyan, as well as a constructivist approach, the role of a learner is active. A learner in a constructivist approach is a collaborator who grows through social interchange and a student who is responsible for her own learning. This shift

of responsibility from teacher to student can prove challenging for both parties. In music education, a learner is also a musical decision-maker. Dewey describes the challenges for young students due to their lack of experiences: "A child's experiences may be intense, but, because of lack of background from past experience, relations between undergoing and doing are slightly grasped, and the experience does not have great depth or breadth."[65] Although there are inherent challenges for a young music elementary student due to his young age, through experience perceiving, producing, and reflecting, a music student grows.

Role of Teacher

John Dewey described the teacher's role ultimately as that of guide and interpreter. The role of a teacher in a constructivist classroom is also that of a supporting role. The teacher should listen attentively to student ideas. The teacher's actions should model a life-long learning ideal. In a constructivist approach to music education, teachers must possess aesthetic awareness and teachers must realize that all students have the ability to succeed. According to Dewey, ideally all teachers should be free to set up learning experiences geared toward student interest as opposed to teaching an established curriculum set by whomever.[66]

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[65] Dewey, *Art as Experience*, 44.

[66] Dewey, *Democracy and Education*, 159-160.

Learning Content

According to both Dewey and a constructivist approach, the content of learners' experiences must relate to student interests and prior knowledge. All involved in a learning experience should respect one another's musical perspective. When experiencing music from around the globe, students should also experience music from their own cultures. Multiculturalism, study of other cultures in addition to one's own culture, as opposed to globalism, study of other world cultures, allows students to learn about their own cultures in addition to learning about multiple perspectives. The learning content must also be authentic and aesthetic.[67]

Musical Experiences

Calvin Brainerd Cady (1851-1928) taught the music teachers who in turn taught at John Dewey's Laboratory School. Cady's focus was on conceptualizing music through the principle of "unification of thought and feeling."[68] Cady advocated rhythmic body activities, multiple perspectives in authentic literature choice, instilling students' love for music, student musicianship, and improved general thinking ability.

Cady's ideas for music education, in some ways, are similar to a constructivist approach. Both philosophies advocate active experience, meaningful

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[67] Nelly Ukpokodu, "Multiculturalism vs. Globalism," *Social Education* 63 (September 1999) 298-301.

[68] Fumiko Shiraishi, "Calvin Brainerd Cady: Thought and Feeling in the Study of Music," *Journal of Research in Music Education* 47 (summer 1999): 150-162.

activities, and improved student thinking. Experiences in a constructivist approach to music education should include active music making, aesthetic awareness, and satisfactory experiences that flow from one part to the next. Some approaches to music education, whether under either the constructivist umbrella or reportedly guided by Deweyan ideas, neglect these and other pertinent factors.

Gates' Philosophy

When using Dewey's ideas of experience for a music education philosophy, one should carefully consider Dewey's basic premises. There are issues in J. Terry Gates' 1974 philosophy of music education that do not consider all of the central principles of Dewey's philosophy.

Gates, for instance, repeatedly refers to a "musical object."[69] At the beginning of his chapter six, he notes that his emphasis is to be on a child's experiences interacting with a musical object. According to Gates, musical growth is the result of interacting with musical objects, and he questions the role of "defective musical objects."[70] Gates' perspective also emphasizes the importance of music appreciation in music education to the point that it seems, for him, to overshadow music performance.

Dewey often warns of the danger in separating object and environment as well as the separation of perceiver and experience. Gates focuses on appreciating

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[69] Gates, "A Philosophy of Music Education Based on the Writings of John Dewey" (Ed.D. University of Illinois at Urbana-Champaign), 102-107.

[70] Ibid., 105.

art objects of "high aesthetic value." This focus on appreciation leaves Gates concerned with "defective" musical objects. Yet many young explorers of music may create music at beginning levels. These young musicians gain experience in music through their trials and errors in music making. Gates's concerns regarding the quality of student created music seem to negate the growth resulting from the experience of creating a defective musical object. Dewey explains that even a "crude" experience, in which there is a connection between environment and organism, is more aesthetic than so-called "art" separated from life. According to Dewey, one may only perceive aesthetically in relation to one's prior experiences.

The very notion of appreciation, as manifested in mainstream aesthetic philosophies in general, and Gates's early perspective in particular, appears to separate the perceiver and the experience. Dewey's concerns of art placed away from daily life result in one's inability to note aesthetic beauty of ordinary experiences.

Della Pietra's Constructivist Approach

Della Pietra's investigation of a three-phase constructivist model to rhythmic improvisation provides fifteen sequential lessons focusing on rhythmic skills of steady beat, specific rhythm patterns, and rhythmic improvisation. The second phase of each lesson allow students time for practice and improvisation. In

the third phase the teacher listens to students perform. These final two phases give students opportunities to explore rhythms.[71]

The initial phase of each lesson begins with a teacher presentation to the class. Starting each lesson with a teacher presentation sends a message that the teacher is imparting knowledge to the students. In Della Pietra's first phase, the teacher asks students to practice four beat phrases, teaches students to say "two things" for two consecutive eighth notes, teaches students to play on the second of the two eighth notes—the "and" of the beat, allows the students to play polyrhythms in groups and by themselves using one hand playing a steady beat and the other hand playing rhythm patterns. Because constructivist approaches are student-centered, Della Pietra's teacher-centered presentation at the start of each of his fifteen lessons may lack a student-centered method needed for a constructivist approach. The ramifications of initial teacher presentations could unfold in a variety of ways. Students, with drums in hand, may be overeager to play, and may not follow the specific directions of the teacher. Disruptions of the teacher's presentation may occur. Or, students may be disinterested and even apathetic, because they want to play their own ways as opposed to echoing the teacher's rhythms.[72]

In constructivist approaches, students construct their own understanding. Pietra gives students this opportunity in the second and third phases of each lesson.

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[71] Della Pietra, "The Effects of a Three-Phase Constructivist Instructional Model" (Ph.D. diss., University of Washington, 1997), 161-177.

[72] Ibid., 161-177.

As stated earlier, Dewey maintains that due to a child's lack of experience, breadth and depth may be missing in the young child's experiences. Both Dewey and constructivist approaches focus on a child's prior knowledge. How can a child explore new phenomenon such as rhythmic improvisation without successfully experiencing a variety of rhythms first? Dewey advocates that a teacher should plan student learning experiences with specific goals in mind. Likewise in a constructivist approach, the teacher sets up a learning environment and the students determine its process and outcome. In a constructivist approach, it is not always clear how the lesson will unfold.[73]

In both Dewey's philosophy and a constructivist approach, reflection is an important phase of growth. Dewey says: "Like the soil, mind is fertilized while it lies fallow, until a new burst of bloom ensues."[74] In the third phases of Della Pietra's model he proposes, "Teacher listens to each group," or "Teacher listens to ensembles."[75] This could be an opportune time for students to reflect on each performance and share with one another reactions to the performances. Della Pietra misses out on a most meaningful educational opportunity in the third phase of the lessons by allowing only for intentional teacher listening and feedback.

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[73] Brooks and Brooks, *In Search of Understanding: The Case for Constructivist Classrooms*, 105-107.

[74] Dewey, *Art as Experience*, 23.

[75] Della Pietra, "The Effects of a Three-Phase Constructivist Model," 163, 165, 166, 168, 169, 170, 171.

Another way of approaching rhythm in a meaningful way is to consider approaching the ideas of rhythm through a more real-world manner. Dewey describes human and natural aspects of rhythm. Perhaps approaching the element of rhythm in this manner would allow students to make meaningful connections to their own lives. For example, the temporal rhythms of day and night, seconds—minutes—hours, sun setting and rising, the cycles of the moon, and the seasons of the year are all examples of rhythm from a nature perspective. The rhythms of the human heartbeat, breathing, chewing, walking, running, skipping, galloping, and arm swinging are all examples from a human perspective. Dewey wrote: "Process of organic life *is* variation."[76] Connecting to a child's organic life may prove more meaningful than a child echoing back a teacher's given rhythm.[77]

Shively's Constructivist Approach

Joseph Landon Shively introduced a theoretical framework to model what a constructivist approach to beginning band might be. He shared the following insight, "Learning environments should provide learners every opportunity to interpret experience rather than experience interpretation."[78] Creating opportunities for learners to experience music follows both a constructivist approach and Dewey's idea of experience. The following evaluation concerns only a minor part

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[76] Dewey, *Art as Experience*, 168.

[77] Ibid., 149-186.

[78] Shively, "A Framework for the Development and Implementation," 219.

of Shively's generally excellent framework, yet the issue behind the criticism is central to a basic premise of constructivism.

Constructivist philosophy maintains that students should construct their own understanding as opposed to simply receiving a given fact. In Shively's framework under the section of "Context," he suggests that "learning environments should include performance experiences that include reading notation and improvisation."[79] Shively makes a clear point that students should be immersed in authentic experiences. These authentic experiences, according to Shively, should mirror real-world music settings. They might include conducting, teaching, improvising, playing folk music by ear, and reading printed music.

Printed music is a guide for musician interpretation. It is not exact or comprehensive. Stanley Boorman wrote that "no practical notation has been (or has been devised to be) comprehensive or precise."[80] The imprecise qualities of notation such as tempo markings, dynamics, and articulation, for example, allow the performer to express his ideas of the music, as well as give musicians something to debate. Suzanne Cusick noted that the true experience of the music is the sound itself, "the score is not the work to a performer; . . . the work includes the performer's mobilizing of previously studied skills so as to embody, to make real,

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[79] Shively, "A Framework for the Development and Implementation," 216.

[80] Stanley Boorman, "The Musical Text," in *Rethinking Music*, ed. Nicholas Cook and Mark Everist (Oxford, UK: Oxford University Press, 1999), 408.

to make sounding, a set of relationships that are only partly relationships among sounds."[81]

Cusick proposes that the score only communicates partial relationships among the sounds of music. Surely the score helps one convey musical images. The images it conveys may change with each subsequent performance. This factor is one of the beauties of creative interpretation. Yet what is most important for a beginning learner to experience? If it is to read a given notation system, then the learner's experiences should mainly be with that given notation system. If experiencing music-making is the top priority for a beginning learner, then the learner should engage primarily in music making. In this case, perhaps written music should not be the focus for an emerging music learner.

Suggesting that students must learn a given music notation system (i.e. the printed music), however, seems contrary to basic constructivist ideals. One of the strengths of constructivism is that students may use their unique intelligences and talents in formation of original ideas. When students have freedom to explore and construct their own understandings, the possibilities for student growth improves. By contrast, when instructors require students only to experience a set, traditional notation, the students' ability to invent or contemplate new or unusual forms of written music diminishes. As Boorman suggests, current Western notation is unclear. How can the future of music and music notation evolve if traditional

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[81] Suzanne Cusick, "Feminist Theory, Music Theory, and the Mind/Body Problem," in *Music/Ideology: Resisting the Aesthetic*, Critical Voices in Art, Theory, and Culture, ed. Adam Krims (Amsterdam, The Netherlands: Overseas Publishers Association, 1998), 47-48.

notation is the only method for students to explore written music? If students are going to construct their own meanings, they should be allowed the freedom to create their own notation. Shively did not necessarily negate this idea, yet at this junction of his framework he tends to ignore the constructivist idea that learners construct their own understanding.[82]

One of the strengths of constructivist learning philosophy is that students create and construct their own understanding. This freedom strengthens students' thinking abilities. A goal of education may be survival in the sense that humans need the ability to transfer learning to unknown situations. Constructive thinking is necessary for learning transfer to occur. When students work to learn a given fact without an opportunity to meaningfully construct understanding, student learning remains stagnant. A stagnant society of youth restricts future growth.[83]

Challenges of a Constructivist Approach to Elementary Music Education

As Dewey noted, *an* experience occurs when "material experienced runs its course to fulfillment."[84] Dewey later states that an experience closes with a

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[82] Stanley Boorman, "The Musical Text," in *Rethinking Music*, ed. Nicholas Cook and Mark Everist (Oxford, UK: Oxford University Press, 1999), 405-411; Shively, "A Framework for the Development and Implementation," 216.

[83] The investigator does not necessarily negate the role of standard notation in music education. A consistent form of communicating music symbols is necessary for conveying musical ideas. This criticism follows a constructivist approach in which students engage in more meaningful learning when they actively create and construct their own understanding.

[84] Dewey, *Art as Experience*, 35.

consummation as opposed to a cessation. There are many potential conflicts and challenges to fulfilling *an* experience in an elementary music education classroom. In teaching elementary music education, there are numerous and various challenges which are particularly challenging when attempting to structure constructivist learning environments in the elementary music classroom. One consistent challenge relates to time constraints. Most elementary music classes have a strict time schedule. There is usually little or no room for flexible class length due to the fact many music schedules book classes back to back allowing no time in between classes. Many times one class travels immediately to another class such as physical education, library, computers, or other special class. Due to this inflexible schedule, music students and teacher must close each class within a scheduled timeframe such as twenty to forty minutes. The class must terminate whether the music experience has come to a conclusion or not.

Other interruptions, which conflict with the class flow, include student interruptions. Perhaps a student wants to talk about unrelated subjects to the teacher or peers. These personal comments may enlighten the teacher about a child's personality or family background, but it also may pull the focus of the class away from the task at hand. Particularly young students, kindergarten and first grade, crave personal attention and share unrelated information with the teacher. This puts the teacher in a very awkward situation because the teacher must create a balance between showing interest in the student's sharing, and leading the remaining class through learning experiences.

Student and teacher lethargy may negatively affect a music classroom experience. Illness and absences of student and/or teacher also negatively affects music classroom experiences. Field trips, school assemblies, teacher in-service or professional obligations all influence the quality of classroom music experiences. Another related factor is student population. Students moving in and out of schools, plus boundary realignments of schools alter class make up, which in turn impacts the experiences of the music class.

Characteristics of a Constructivist Approach to Elementary Music Education

Employing a constructivist approach in an elementary music classroom may be difficult given the challenges listed above. Still there are ways to create a constructivist approach to elementary music education. For example, two formats compatible with a constructivist approach are technology and long term projects. The following sections introduce the ideas of technology and projects; these provide examples of learning experiences based on some of the National Standards in Music Education as well as a "domain project" based on the Arts PROPEL model.[85]

Technology

Roger Schank and Chip Cleary noted that Progressive educators of the early twentieth century did not have the resources for individualized instruction. "One

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[85] Ellen Winner, Lyle Davidson, and Larry Scripp, eds. *Arts PROPEL: A Handbook for Music*, 19-55.

primary reason Progressive reformers could not carry out their program earlier in the 20th century is that they did not have the means to deliver such individualized instruction . . . .The computer has the power to change all this."[86]

An appropriate use of technology can enhance a constructivist approach to elementary music education. Care must be taken that technology allows for students to think on their own. Overuse of drill and practice, for instance, may be inherently incompatible with a constructivist approach. In a constructivist framework, the focus should not be on the technology itself. Technological tools per se do not necessarily aid constructivist learning.[87]

Sam Reese and James Riminton surveyed music technology in Illinois public schools. They discovered that out of the small percentage of music teachers who use technology (general music 26%, choral music 21%, and instrumental music 16%) 65% used technology for communication and administrative purposes. They found that music teachers who used software for teaching employed notation software most frequently (this figure was only one out of five).

Reese and Rimington assert that technology training should focus on "implementing valid music learning activities"[88] yet they do not explicate examples

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[86] Roger Schank and Chip Cleary, *Engines for Education* (Hillsdale, NJ: Lawrence Erlbaum Associates, Inc., 1995), 67.

[87] See George Heller, "Computers and Other Delusions in Music Education," *Kansas Music Review* 60 (November 1998): 28-29.

[88] Sam Reese and James Rimington, "Music Technology in Illinois Public Schools," *UPDATE, Applications of Research in Music Education* 18 (spring-summer 2000), 32.

of valid technological music learning activities. What is the practical use of this type of descriptive study if there is no clarification of ideal use of technology in music learning experiences? Researchers and teachers alike must become aware of how technology can enhance student learning.

John Black and Robert McClintock created a model for computer programs that uses a construction approach to constructivist design. According to Black and McClintock, the term "study" is more appropriate than the term "learn" for what should occur during knowledge construction. So, Black and McClintock designed "Study Support Environments (SSEs)"[89] as opposed to "learning environments." Black and McClintock applied SSEs to literature, science, and history: the names of the programs are *Playbill*, *Galileo*, and *Archaeotype*. Black and McClintock form these programs on the "Interpretation Construction (ICON) Design Model" which consist of the following six segments: (a) observation, (b) interpretive construction, (c) contextualization, (d) cognitive apprenticeship, (e) collaboration, and (f) multiple interpretation. According to Black and McClintock, students acquire argumentation and interpretation skills by using these programs.[90]

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[89] John Black and Robert McClintock, "An Interpretation Construction Approach to Constructivist Design," 1995 [paper on-line]; available at http://www.ilt.columbia.edu/text_version/ilt/papers/ICON.html, accessed 25 July 2000.

[90] Black and McClintock, "An Interpretation Construction Approach to Constructivist Design." For more information on constructivism and technology see M. D. Roblyer, Jack Edwards, and Mary Anne Havriluk, *Integrating Educational Technology into Teaching* (New York: Prentice-Hall-Merrill College Publishing, 1997); Cameron White, "Relevant Social Studies Education: Integrating Technology and Constructivism," *Journal of Technology and Teacher Education* 4 (1996), 69-76.

A group of four researchers from the University of Louisiana at Monroe investigated the relationship between the use of technology in classrooms and self-perceptions of teacher's constructivist behaviors. Four hundred thirty-five active K-12 teachers responded to this e-survey. The researchers discovered that constructivist behaviors occurred infrequently. The teachers responded to fourteen constructivist behaviors based on writings of McKenzie and Brooks and Brooks. The lowest behaviors listed were supporting student initiative (5.7% monthly), encouraging student dialogue (4.2% monthly), and allowing wait time after asking questions (2.5%). The teachers who had fewer than fifteen years teaching experience used more constructivist behaviors than teachers with over fifteen years of teaching experience. Also, teachers who arrange their classroom lecture-style, with desks separated into rows facing the teacher, were less likely to use constructivist behaviors than teachers who grouped desks together or set up the desks in a circle.[91]

James Daugherty demonstrated ideas for implementing technology for enhancing choral music instruction. According to Daugherty, effective online enrichment required (and continues to demand) a great deal of teacher preparation and organization. Daugherty created web forms for choristers to locate related resources, answer posed questions, post questions or comments on a chat board for other choir members to read and respond. Daugherty also used these forms for

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[91] Glenda Rakes, Beverly Flowers, Holly Casey, and Ronnie Santana, "An Analysis of Instructional Technology Use and Constructivist Behaviors in K-12 Teachers," *International Journal of Educational Technology* 1 (December 1999).

student assessment. These ideas allow students further learning opportunities where they may continue studies related to their particular interests. Daugherty moreover suggested that using technology in a way that does not actually engage students is little different from such traditional teacher-centered approaches as lecture or writing on the blackboard.[92]

Harry Connick, Jr. used technology during rehearsals, for score writing, and for communicating to members of his band. Incidentally, Connick taught himself to write arrangements through trial and error because of a specific need—similar to Homer Hickman, Jr. in *Rocket Boys*. In 1993 Mark Schaiman, who was to orchestrate a Christmas record for Connick, backed out two weeks prior to recording date. Connick worked intensely on the parts for two straight weeks. Hearing the fruits of his own work, Connick was overjoyed. After this successful experience, Connick decided to create all his own arrangements.[93]

Connick developed an innovative computer system for his band. Instead of sheet music, individual flat panel screens displayed music for each band member, who had their own computer and monitor. Band members made rehearsal notes directly on their computers. When Jerry Weldon, tenor saxophonist, anticipated difficulty in learning a part, Connick responded, "You probably want to learn it from the disk, though, don't you, rather than putting the paper between you and the

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[92] James Daugherty, "Online Enhancement of Choral Music Instruction," paper presented at the Proceedings of the Sixth International Technological Directions in Music Learning Conference Held in San Antonio, TX, 28-30 January 1999.

[93] Paul de Barros, "A Chart a Day," *Downbeat* (October 1999): 28-33.

music."[94] Weldon agreed and since he had *Finale* on his laptop, Connick told him that he would email the music to him.

Until schools are set up more appropriately for technology, and teachers have adequate training on quality technological tools, teachers may choose to use technology for enhancing student learning experiences outside of the classroom. For students whose families use computers in their homes, encouraging students to partake in extra learning experiences through technology not only allows students to explore their interests, but it also connects to students' real world life.

Project Approach

A project approach is where students choose, with the guide of the teacher, a specific project to explore in depth. The learning communities in Reggio Emilia often use a project approach.[95] In Reggio Emilia projects are motivating educational experiences. Intermediate elementary music students may also enjoy this project approach. One key factor for student motivation is topic choice. In line

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[94] Harry Connick, "A Chart a Day," quoted in Paul de Barros, *Downbeat* (October 1999): 33. Connick's quote demonstrates the importance of making the music as opposed to learning the score. Additionally, from a constructivist perspective, a band leader or other music conductor, who tells the ensemble specifically how the music should sound, negates the opportunity for the musicians of the ensemble to construct or interpret the music independently. This contrast among individual construction, group construction, and a leader's command would be interesting to study.

[95] See Joanne Hendrick, ed., *First Steps Toward Teaching the Reggio Way*, ed. Joanne Hendrick (Upper Saddle River, NJ: Merrill, 1997); and Carolyn Edwards, Lella Gandini, and George Forman, eds. *The Hundred Languages of Children: The Reggio Emilia Approach to Early Childhood Education*, ed. (Norwood, NJ: Ablex Publishing Corporation, 1993).

with a constructivist approach, students, with appropriate teacher guidance, may select topics related to their particular interests as well as their immediate environment. Dewey notes that proper teacher guide is vital to student success.[96]

With influences from Reggio Emilia and through their experiences with in-depth study projects, Debbie LeeKeenan and John Nimmo, they learned the guiding principle of making connections. They described multiple examples of connections, which are exceedingly similar to Dewey's ideas. The connections they described included temporal, home and school life, social, and connections between student and teacher interests. LeeKeenan and Nimmo illustrated four components of their in-depth study project: (a) exploration: an inspiring stimulating event where the teachers carefully notice children's interests and ideas; (b) organization: the teachers use student interests to develop learning activities; (c) discussion/representation: student and teacher dialogue which lead to the next days events, (d) summary experience: a culminating experience which may be a spring board for new projects.[97] Such continuation of experience strikingly resembled Dewey's idea of the interrelationship between means and end, and growth leading to more growth.

In addition to individuals pursuing projects, small groups may also engage in a project approach. Cooperative learning groups are one example of group

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[96] Dewey, *How We Think*, 14-28.

[97] Debbie LeeKeenan and John Nimmo, "Connections: Using the Project Approach with 2- and 3-Year-Olds in a University Laboratory School," in Edwards, Gandini, and Forman, eds., *The Hundred Languages of Children*, 251-267.

project method. According to Page and Marlowe, teacher-centered cooperative learning methods concerned in convergent thinking are not constructivist in nature. Instead, they suggest group projects with intrinsic rewards in which learning is student directed such as Shlomo Sharan's Group Investigation method. Group projects allow students to learn through interaction with one another. Such social influences on learning are a key concept in Dewey's educational framework.[98]

Arts PROPEL

Arts PROPEL's music handbook serves as an excellent resource for music educators who want to incorporate a constructivist approach to music education. The Arts PROPEL model focuses on student perception, production, and reflection. The model uses "domain projects"[99] which are long-term projects that allow students to discover musical elements. This domain project model encourages flexible assessments, such as portfolios, reflection journals, and questionnaires. Domain projects may last from two weeks to over two months.

The following example of a domain project incorporates National Music Standards 1, 2, 3, 4, 5, 6, 7, and 9. The title of this domain project is, "Know Thyself." Because students need to be aware of their own cultural background in

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[98] Marlowe and Page, *Creating and Sustaining the Constructivist Classroom*, 22-23; Shlomo Sharan and Hana Shachar, *Language and Learning in the Cooperative Classroom* (New York: Springer-Verlag, 1988); and Shlomo Sharan, "Cooperative Learning Effects on Ethnic Relations and Achievement in Israeli Junior High School Classrooms," Robert Slavin, ed. *Learning to Cooperate, Cooperating to Learn* (New York: Plenum Press, 1985), 313-344.

[99] Winner, *Arts PROPEL: A Handbook for Music*, 19-56.

order to more fully compare and contrast other cultures, this domain project allows students to learn more about their individual backgrounds and lifestyles.[100]

Students first create "I Am From" poems. The poem structure is simply a list poem. Students create a list in which each line starts with, "I am from . . ." (see example below). In this activity learners think about their own individual backgrounds. Teachers encourage learners to remember meaningful memories to insert in their poems. This is a list poem where students describe specific memories and examples of their backgrounds in the following structure:

I am from piano lessons on Wednesday afternoons.
I am from cut-up cakes for birthday celebrations.
I am from Grand Marches and Flying Dutchmen at wedding dances.
I am from rosary beads on long car trips.
I am from caramel corn balls for Halloween treats.
I am from horse statue collections and bike riding to the swimming pool.
I am from hand-me-downs from my older sisters.
I am from clothes hand sewn with love from my mother.[101]

Throughout the domain project, students participate in a variety of name rhythm activities such as rhythmic echoes, layering rhythms based on names, and small group compositions centered on names. Students may also participate in a variety of melodic name activities such as compositions starting on the absolute pitches found in the letters of their names, create ostinato melodies using pitches of their name, create longer melodies constructed with pitches of their name, and create a melodic composition based on three other name ostinatos from their class. The learners combine their "I am From" poem with their favorite rhythmic or melodic

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[100] See Ukpokodu, "Multiculturalism vs. Globalism," 298-301.

[101] Created by Mary L. Cohen, summer 2000.

composition. Learners reflect and evaluate both their own work and their classmates work. Students may store their creations and reflections in their portfolios.

The preceding project is but one example of a domain project in elementary music education. A key factor for keeping the project in a constructivist framework and following Deweyan ideas is that students must create their pieces without the teacher directly influencing the process. The teacher must support and guide the learners' work and ideas, and the learners must responsibly work to answer their own questions. In this framework learners are highly encouraged to reflect, collaborate, evaluate, revise, and dialogue with one another. These experiences should allow learners to grow, think independently, and cooperatively.

Constructivist Learning Experiences based on some of the National Standards in Music Education

Tyronne McNichols argues that the concept of mandated state and national standards are contrary to basic constructivist thought. According to McNichols, a constructivist learning situation should not regulate students' discriminations to external standards of truth. Be that as it may, the National Standards in Music Education contain both general content standards and specific achievement standards. For example, the Kansas State Board of Education drafted a structure for implementing the achievement standards in music education. Within this framework, it is feasible for an elementary music teacher to set up constructivist

learning environments. This section describes three learning experiences based on a constructivist approach to the first and second national standard in music.[102]

George Gagnon and Michelle Collay's "Constructivist Learning Design"[103] serves as a guide for the following three learning experiences (adjusted accordingly by the investigator). These learning experience examples function as a guide for a constructivist approach to elementary music learning. Because the nature of constructivism is for one to construct one's own understanding, another's interpretation of the experiences may differ from my suggestions. Throughout these three examples, I suggest using a music portfolio for documentation and assessment of the experiences. This may take the form of a paper folder, electronic folder, or other type of file. For evaluations, students should create their own rubric for what they think qualifies specific performance levels. These levels could be on a scale of one to three, one to five, or other scale depending on the students.

Although this investigation focuses on elementary age learners, one may use ideas from this study for secondary music learners with proper adjustments for their particular age group. The groupings of each learning experience are both individual and small group. Because of such variation in groupings, students may

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[102] Tyrone Jeffrey McNichols, "Constructivism Deconstructed: from Kant to Lyotard. The Process and Criteria for Judgement (Immanuel Kant, Jean Francois Lyotard)" (Ed.D. diss., University of Missouri-Saint Louis, 1999); *National Standard for Arts Education: What Every Young American Should Know and Be Able to Do in the Arts* (Reston, VA: Music Educators National Conference, 1994).

[103] George Gagnon and Michelle Collay, "Teachers Perspectives on Constructivist Learning Design," paper presented at the *Second Annual Conference, Qualitative Research in Education: Mindful of the Ordinary*, St. Paul, MN, University of St. Thomas, 28 June 1996.

construct both the individual understandings (psychological constructivist philosophy) as well as understandings influenced by small group interactions (social constructivist philosophy).

Songs from a Student Perspective

National Standard 1: Singing, alone and with others, a varied repertoire of music

National Standard 6: Listening to, analyzing, and describing music

National Standard 7: Evaluating music and music performances

National Standard 9: Understanding music in relation to history and culture

This experience may be for students in grades two through six.

1. Questions

In your life, when do you hear people sing? When do you sing? Where do you sing? What are the occasions? Why is singing important for these occasions? Where else could you sing?

2. Activity

Each student must locate five songs sung by his family and/or community. Each student practices singing the songs individually. In the music classroom, students sing their songs to a partner and then teaches their partner one favorite song. Next, each pair of students group together with another pair of students. The partners sing each of their songs to one another. Then, the partners choose one song to teach the other set. Together all four students sing the two songs they

chose. Next, the groups of four students choose one song to teach the class. At this point, the groups work to improve their singing quality and expression. Finally, after the entire class learns each song, each student reflects and writes in their music portfolio the meaning and importance of singing in their lives. Additionally, they may list their favorite songs in their portfolio as well as on a class poster.

Human-Based Rhythm Experience

National Standard 5: Reading and notating music

National Standard 6: Listening to, analyzing, and describing music

National Standard 7: Evaluating music and music performances

National Standard 8: Understanding relationships between music, the other arts, and disciplines outside the arts

This experience may be for kindergartners through sixth graders.

1. Questions

What does your heart do? Does it do that consistently? Are there any times when it varies from what it normally does?

2. Activity

Students feel their own heart beat either with hand on chest, two fingers on carotid artery or radial artery for twenty seconds to a minute depending on the focus of the students. With a writing utensil, a piece of paper and pencil or possibly a computer and a drawing program, students draw what they feel. Students reflect on what their drawings. They feel their heart beat again and try to

follow their drawing. Students reflect as to whether their drawing matches what they feel in their heartbeat. They may change or edit their heartbeat visual.

Second, the teacher plays a steady beat on a drum at a tempo of around 140 beats per minute. Students close their eyes and listen to both their heartbeat and the drum sound. Students draw what they feel and hear. Students are given an opportunity to reflect and change their drawing. Third, students listen to music with a steady pulse of around 70 beats per minute while feeling their heartbeat. Students reflect and write in their portfolio what they think is in common with what they felt in their body and what they heard in the music. Students first share their ideas with a partner. Then partners share with other partners. One spokesperson from each group shares with the class what ideas their group created. A class discussion may follow this sharing time, after which students may reflect individually and write in their journals their reactions to this activity.

Instrument Exploration

National Standard 2: Performing on instruments, alone and with others, a varied repertoire of music

National Standard 3: Improvising melodies, variations, and accompaniments

National Standard 4: Composing and arranging music within specified guidelines

National Standard 5: Reading and notating music

National Standard 6: Listening to, analyzing, and describing music

National Standard 7: Evaluating music and music performances

National Standard 8: Understanding relationships between music, the other arts, and disciplines outside the arts

This learning experience concentrates on instruments, sound sources, and instrument performing. Teachers may opt to focus on instruments, sound sources, or both. The option for sound sources is important for a constructivist approach because if students only think about sounds produced from specific instruments, they miss out on a creative opportunity to construct their own understanding of sound and instrument production. This experience may be for grades one through six.

According to John Dewey, students who experience hands-on activities understand concepts at a deeper level. In order for students to be familiar with the classroom instruments as well as other sound sources, students have an opportunity to explore classroom instruments and sound sources in this learning experience.

1. Questions

What instruments or other sound sources are in the music room? How is sound produced? What makes sound interesting to listen to? How can one use sound to make music? How can the classroom instruments and/or sound sources be grouped? Do any make similar sounds? How are the sounds produced? What should the different instrument groups be called? Any ideas for storing them? How did the instrument evolve?

2. Activity

In groups of three to five students, the class goes on a scavenger hunt for sounds that fit in their sound groupings that they created during the question section. Then each group uses the ideas they created when the answered the question, "How can one use sound to make music?" Each group creates music, and invents notation for their composition. Next, each group performs for the class. Students use their evaluation rubric (explained in the introduction to this section) and write evaluations and their individual relfections in their music portfolios. After individual reflection, students may share their ideas with a partner, partners may share with other partners, one spokesperson from each group may share their groups ideas with the class, and then the class may discuss the activity as a large group. After the discussion, students may write individual reflections in their portfolios. Groups and/or individuals may choose to create posters of instrument and/or sound groupings.

Summary

John Dewey's philosophy is multi-faceted. Yet, at its heart lives a concept of experience that, when applied to elementary music education, both nurture and criticize contemporary constructivist thought as it may relate to music education. As discussed in this chapter, music educators interested in Dewey's contribution to music education, may misappropriate his thought at critical junctures (e.g. Gates), while others concerned with a constructivist framework for contemporary music

education (e.g. Shively, Della Pietra) can tend to ignore ways that Dewey's perspective might refine and enliven their approaches.

Still, the continuing significance of Dewey's thought for constructivist approaches to elementary music education is evident in: (1) his emphasis upon interaction between organism and environment (mental, physical, and social environment), (2) the contention that the connection of means to ends leads to additional experiences, (3) his analysts of education as growth, (4) the assertion that aesthetic experiences connect to and arise from daily life, and (5) his view that art may interconnect to life itself.

These thoughts interact suggestively with current discussions of the philosophy of music education. Estelle Jorgensen, for example, proposed a dynamic dialectic between music and education, in which she recognizes that philosophies of music education may choose to begin with or emphasize either the concept of music or the concept of education. While there are some current philosophies of music education that begin with and emphasize music.[104] Dewey's view of art is anti-essentialist. He resists any notion of art as an absolute. In Dewey's view, experience and growth are overarching concepts that precede any philosophy of art or music per se. Such an assertion runs counter some current

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[104] For example, David Elliott stated "the nature of music education depends on the nature of music" in *Music Matters* (New York: Oxford University Press, 1997), 12; and Bennett Reimer asserted "the essential nature and value of music education are determined by the nature and value of the art of music" in Bennett Reimer, *A Philosophy of Music Education* 2d ed. (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1989), 1.

philosophies of music education that ground themselves primarily in a philosophy of music.[105]

A Deweyan perspective on constructivism also raises questions about the nature of music. Constructivism theoretically challenges the notion of the completed work of art, the very basis of the aesthetic tradition, as necessarily coming prior to one's interaction with it. Dewey is against the tradition, present from the Greeks forward, that art is somehow different from the realities of daily life. Moreover, from both a Deweyan and social constructivist perspective, the social context of music is an important part of what music is, not a secondary characteristic.

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[105] Estelle Jorgensen, *In Search of Music Education* (Chicago: University of Illinois Press, 1997), 71-93.

CHAPTER V:

CONCLUSION AND RECOMMENDATIONS

This investigation examined some fundamental concepts of constructivism with a view toward determining how constructivist pedagogy might inform the theory and practice of elementary school music education. In doing so, this study focused specifically on the ideas of John Dewey. With his concept of "art as experience," moreover, Dewey was unique, among those major thinkers routinely credited with laying a foundation for contemporary constructivist pedagogy, in explicitly considering music and the arts as essential components of public education.

While this investigation addressed these questions more specifically in chapter three, with a basic groundwork established in chapter two, it is helpful at this point to summarize conclusions of this investigation in broad reference to its research questions.

Research Questions

1. How might John Dewey's concept of "art as experience" enlighten a constructivist approach to music education?

An analysis of Dewey's perspective suggests that music educators should be concerned with experience as much as the subject matter of music. Elementary

music classrooms, moreover, should be equipped for facilitating group projects, incorporating individual instruction, and appropriate use of technology. Dewey enables music educators to embrace the interaction between environment and art and does away with the dichotomy between the art object and its context.

2. How might music educators employ a constructivist approach in the elementary music classroom?

Music educators might employ a constructivist approach in the elementary music classroom by focusing on student perception, production, and reflection when creating learning opportunities for students, as modeled, for example, in the Arts PROPEL guide. Chapter three of this investigation models some specific learning ideas in this regard. Technology may play a key role in employing a constructivist approach to elementary music if the use of the technology is student-centered and follows basic constructivist principles outlined in this investigation.

3. What are some specific benefits and challenges in using a constructivist approach in the elementary music classroom?

Specific challenges to using a constructivist approach in the elementary music classroom may include such items as time restraints due to fixed schedules, appropriate physical structures to prevent a cacophony of sounds when students are working with instruments in small groups, encouraging student initiative in their own knowledge construction, and lack of adequate materials.

Employing a constructivist approach in the elementary music classroom offers the following primary benefits:

1. The emphasis is on the student rather than the teacher or the subject matter (music).
2. Students actively create and make music based on their own experiences.
3. Students may learn about themselves through interactions with other students as opposed to passively interacting with only the teacher and/or just the music.
4. In the elementary music classroom, a constructivist appraoch allows for more opportunities for individual musical expression.
5. Constructivist experiences may promote musical growth inspiring young students to express themselves musically and create unique interpretations of musical elements.

Conclusions

Due to constructivism's assertion that students should construct their own understanding through doing as opposed to observing or absorbing, constructivism likely challenges an aesthetic philosophy of music education in which one contemplates music as an end to itself. Granted, one may contemplate music without actively making it. Yet, as Dewey suggests, the context of such an experience may ultimately determine its quality.

At the heart of constructivist ideas is learning by experiencing. Action and activity play an integral role in constructivist approaches. An aesthetic philosophy of music education, which both begins with a philosophy of music per se and negates the interconnectedness of environment and organism, may be incompatible with a constructivist approach.

Future Research

In general, philosophical investigations enlighten researchers by viewing ideas from a broad perspective and logically analyzing their premises and conclusions. Further philosophical investigations might compare specific branches of constructivism such as psychological, social, cultural, physical, radical, or other approaches. In addition, historical studies that investigate more closely the history of ideas associated with constructivism can enlighten our current understanding of constructivism as it may apply to music education. Further documentation of experiences from the Dewey School at the turn of the century could enhance present understandings of how constructivist ideas inform music education.

There is also a need to assess the status of teacher perceptions of constructivist ideas and teacher use of constructivist ideas in an elementary music classroom. Other studies might focus on higher education. Three examples are: (1) to what degree do college professors, especially those in music education, utilize constructivist and more traditional approaches, (2) to what degree do undergraduate programs expose undergraduate students to a variety of learning approaches, and

(3) to what degree are music education students equipped with skills and knowledge to apply technology in a way that emphasizes student-centered learning?

Strategies to enhance student learning are vital for continued educational growth. John Dewey's educational philosophy serves as a model for educators in music as well as other disciplines. Dewey notes the vital importance of art to life:

> Art is the extension of the power of rites and ceremonies to unite men, through a shared celebration, to all incidents and scenes of life. This office is the reward and seal of art. That art weds man and nature is a familiar fact. Art also renders men aware of their union with one another in origin and destiny.[213]

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[213] Dewey, *Art as Experience*, 271.

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